EXHIBIT 1

Invalidity Claim Chart for U.S. Patent No. 6,836,654 vs. IBM Simon System ("IBM Simon")

All asserted claims of the '654 Patent are anticipated in view of the IBM Simon ("IBM Simon") prior art system and prototypes thereof known, used, and/or sold in the United States prior to the alleged invention of the subject matter claimed in the '654 Patent.

The IBM Simon anticipates some or all asserted claims under at least 35 U.S.C. §§ 102(a), (b), and/or (g). Upon information and belief, the IBM Simon ("IBM Simon") was publicly available for purchase at least as early as August 1994, as demonstrated by at least the device itself, the associated Users Manual ("User Manual"), the testimony of knowledgeable witnesses and corroborating documents. *See, e.g.*, "First Smartphone Turns 20: Fun Facts About Simon," Time, August 18, 2014 (*available at* http://time.com/3137005/first-smartphone-ibm-simon/, last accessed May 6, 2019) (IBM Simon "went on sale to the public on August 16, 1994"); *see id.*, "Year of the Portable" Episode, Computer Chronicles TV, 1995; IBM Simon Users Manual ("Copyright IBM Corp. 1994"); "Simonizing the PDA: BellSouth's communicative Simon is a milestone in the evolution of the PDA," Byte Talk, December 1994 (*available at* https://web.archive.org/web/19990221174856/http://byte.com/art/9412/sec11/art3.htm); "Simon: More than a Phone, Less than a PC," PC Magazine, October 25, 1994, p. 46; "Bellsouth, IBM unveil personal communicator phone," Mobile Phone News, November 8, 1993. Therefore, the IBM Simon System is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and/or (g).

The conception and diligent reduction to practice of the ideas in the IBM Simon occurred at least as early as 1994. Based on information currently available, the person or entities involved in the conception and diligent reduction to practice of the ideas in the IBM Simon include at least: Frank J. Canova, Jr.; Brent A. Beatty; Charles S. Lanier; Wayne P. Whitley; Debra A.G. Johnson; Gary Wisgo; Jerry Merckel; and Paul Mugge. Defendant may rely on testimony from these individuals to demonstrate the functionality of the IBM Simon system, to prove its eligibility as prior art, and/or to authenticate any documents related to the IBM Simon. Defendant has served a subpoena on IBM for documents and testimony and specifically reserves the right to supplement this chart following additional discovery received.

In compiling these contentions, Defendant has relied in part on Uniloc's infringement contentions pursuant to Eastern District of Texas Local Patent Rules 3-1 and 3-2. In those contentions, Uniloc appears to assign constructions to indefinite claim language, to pursue overly broad claim constructions in an effort to assert infringement where none exists, and to accuse products that do not infringe the claims. Defendant's contentions and claim charts take into account Uniloc's apparent constructions and may reflect aspects of the prior art that satisfy Uniloc's apparent claim constructions. Defendant's assertion that a particular limitation is disclosed by a prior art reference, or Defendant's assertion that a particular limitation is disclosed by a prior art reference in a particular manner, may be based in part on Uniloc's apparent claim interpretations. In relying in part on Uniloc's apparent claim interpretations, Defendant does not admit that Uniloc's apparent claim interpretations are supportable or proper or that the claim limitations in

question are definite or otherwise amenable to construction. Defendant will argue for appropriate constructions of any term or claim of any patent at issue in this action on the schedule set by the Court.

The citations to portions of any reference in this chart are exemplary only. Defendant will rely on the entirety of the system and references cited in this chart to show that the asserted claims are invalid. Discovery is ongoing and Defendant will update this chart as appropriate based on the results of its investigation, including third-party discovery.

Claim 1	IBM Simon
1(pre). A mobile radiotelephony device, comprising:	To the extent the preamble is determined to be limiting, the IBM Simon discloses "[a] mobile radiotelephony device":  Photo of IBM Simon on charging station.

Top view photo of IBM Simon; back view photo of IBM Simon with battery removed.

You now have total personal communications—including your ***cellular phone***—in one ***small, hand-held, mobile device***. Simon has everything you need: ***cellular phone***, fax, E-mail, pager, paperless notepad, address book, calendar, and calculator. And it's wireless! So it works where you work, goes where you go.

See User Manual at 1.[1]

[1] Emphasis added unless otherwise specified.

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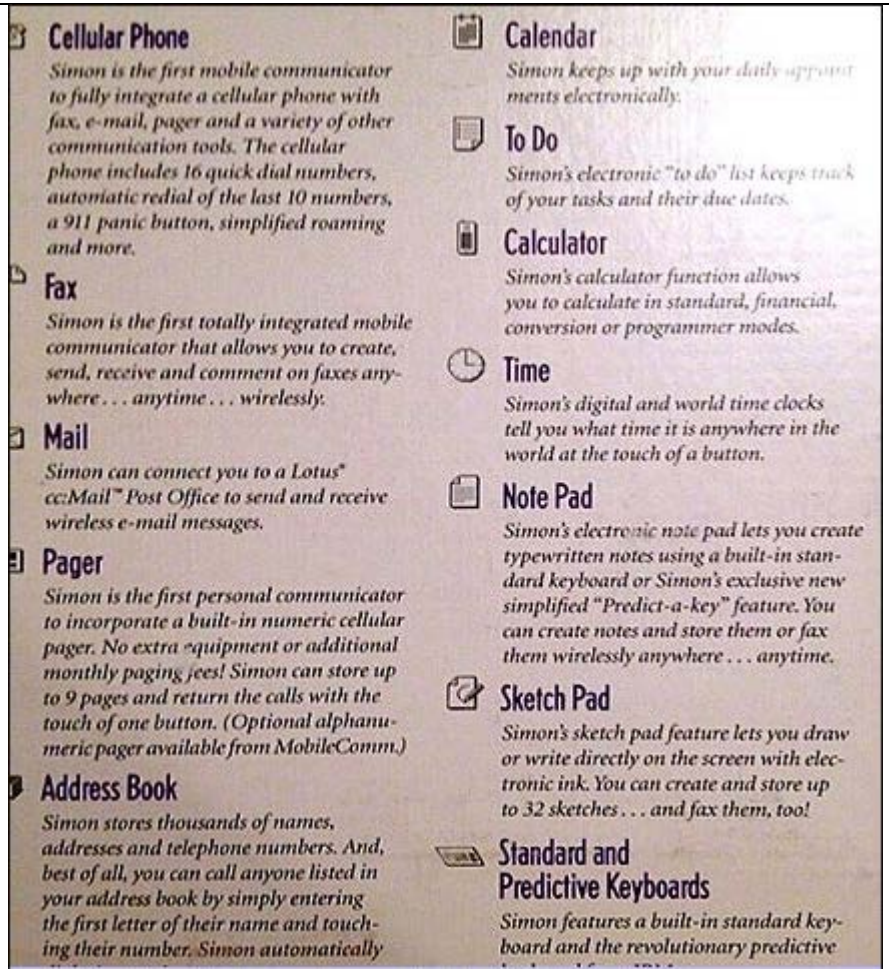
	The IBM Simon was a cellular phone that sent out radio waves. **Radio Waves** ***Cellular phones send out radio waves***. These waves might interfere with the proper functioning of electronic control systems, such as electronic fuel-injection systems, electronic cruise-control systems, and particularly, electronic antiskid braking systems. *See id.* at 3. **How Simon Works** ***Your Simon is a cellular phone*** with personal organization and communication capabilities. The phone has a display that shows you the screens for the available features. The two main screens are the ***Phone*** screen and the Mobile Office screen, and you can get to them at any time by touching their picture (icon) on the bottom of the display area. ***You can use the phone functions by touching the button for the desired feature on the Phone screen.*** You can use the personal organization and communication functions by touching the appropriate icon on the Mobile Office screen. *See id.* at 11.



Cellular Phone

Simon is the first mobile communicator to fully integrate a cellular phone with fax, e-mail, pager and a variety of other communication tools. The cellular phone includes 16 quick dial numbers, automatic redial of the last 10 numbers, a 911 panic button, simplified roaming and more.

Fax

Simon is the first totally integrated mobile communicator that allows you to create, send, receive and comment on faxes anywhere . . . anytime . . . wirelessly.

Mail

Simon can connect you to a Lotus® cc:Mail™ Post Office to send and receive wireless e-mail messages.

Pager

Simon is the first personal communicator to incorporate a built-in numeric cellular pager. No extra equipment or additional monthly paging fees! Simon can store up to 9 pages and return the calls with the touch of one button. (Optional alphanumeric pager available from MobileComm.)

Address Book

Simon stores thousands of names, addresses and telephone numbers. And, best of all, you can call anyone listed in your address book by simply entering the first letter of their name and touching their number. Simon automatically

Calendar

Simon keeps up with your daily appointments electronically.

To Do

Simon's electronic "to do" list keeps track of your tasks and their due dates.

Calculator

Simon's calculator function allows you to calculate in standard, financial, conversion or programmer modes.

Time

Simon's digital and world time clocks tell you what time it is anywhere in the world at the touch of a button.

Note Pad

Simon's electronic note pad lets you create typewritten notes using a built-in standard keyboard or Simon's exclusive new simplified "Predict-a-key" feature. You can create notes and store them or fax them wirelessly anywhere . . . anytime.

Sketch Pad

Simon's sketch pad feature lets you draw or write directly on the screen with electronic ink. You can create and store up to 32 sketches . . . and fax them, too!

Standard and Predictive Keyboards

Simon features a built-in standard keyboard and the revolutionary predictive

Source: http://www.mobilecollectors.net/files/100112_57_jpg_medium.jpg

1(a). Blocking means for preventing a normal operation of the mobile radiotelephony device, wherein the normal operation includes a processing of outgoing calls;	The IBM Simon discloses a blocking means for preventing a normal operation of the mobile radiotelephony device, wherein the normal operation includes a processing of outgoing calls. The IBM Simon allowed the user to lock the Simon with a password.  Photo of IBM Simon screen displaying “Password” icon.

Photo of IBM Simon screen displaying “Password” menu.

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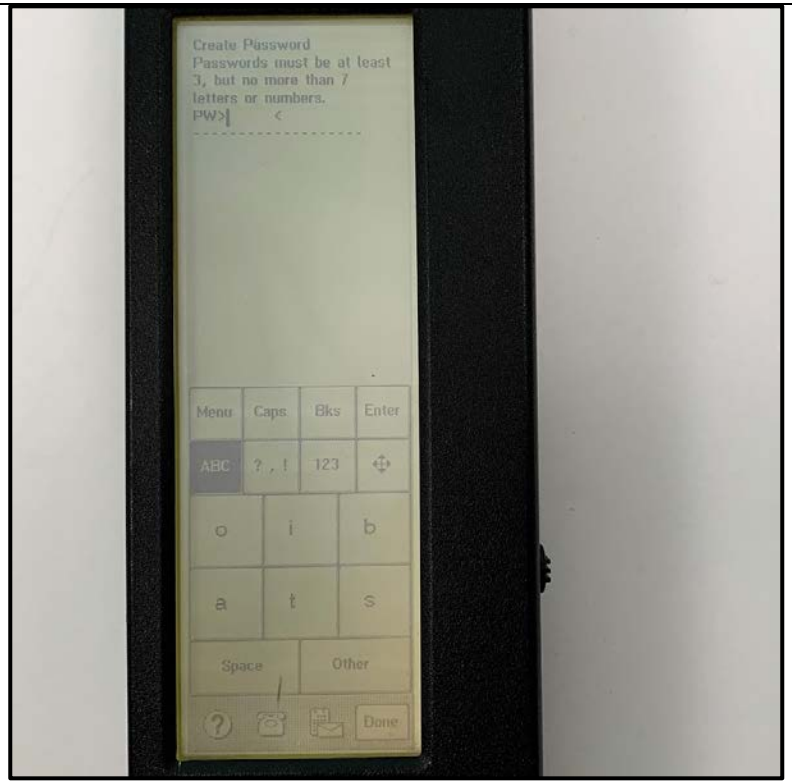

Photo of IBM Simon screen displaying “Create Password” option.

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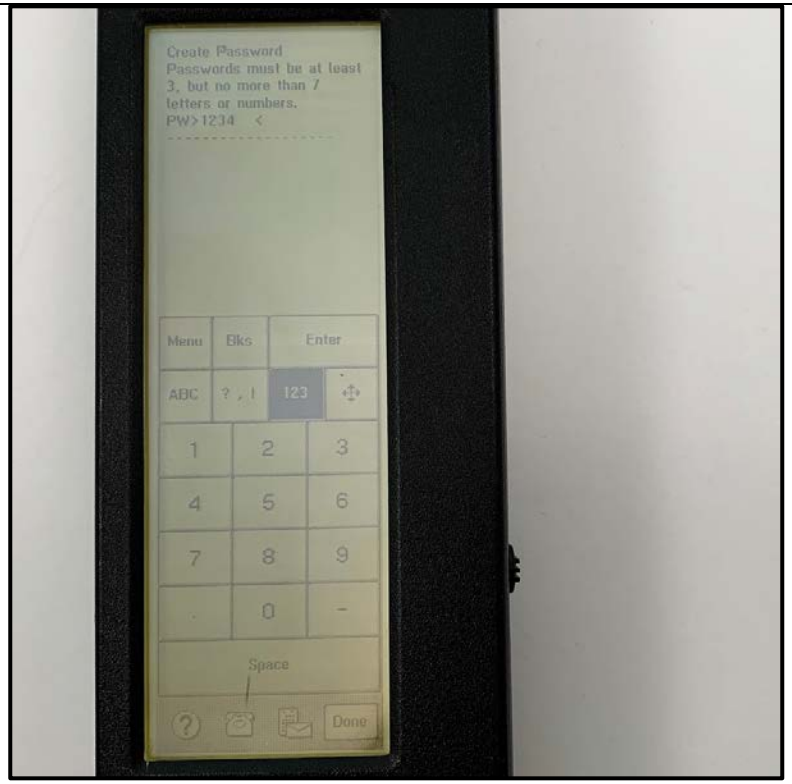
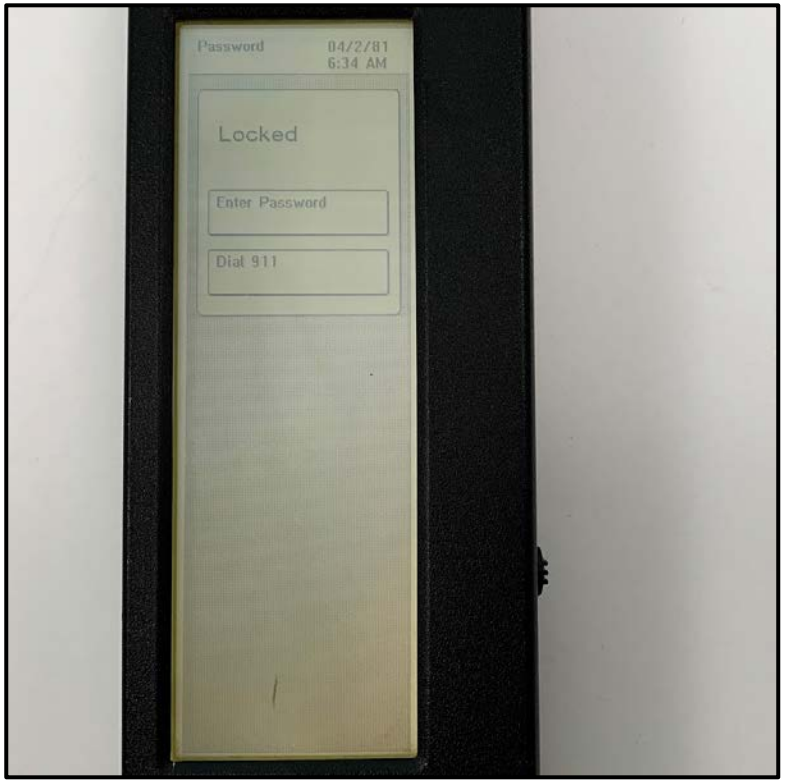
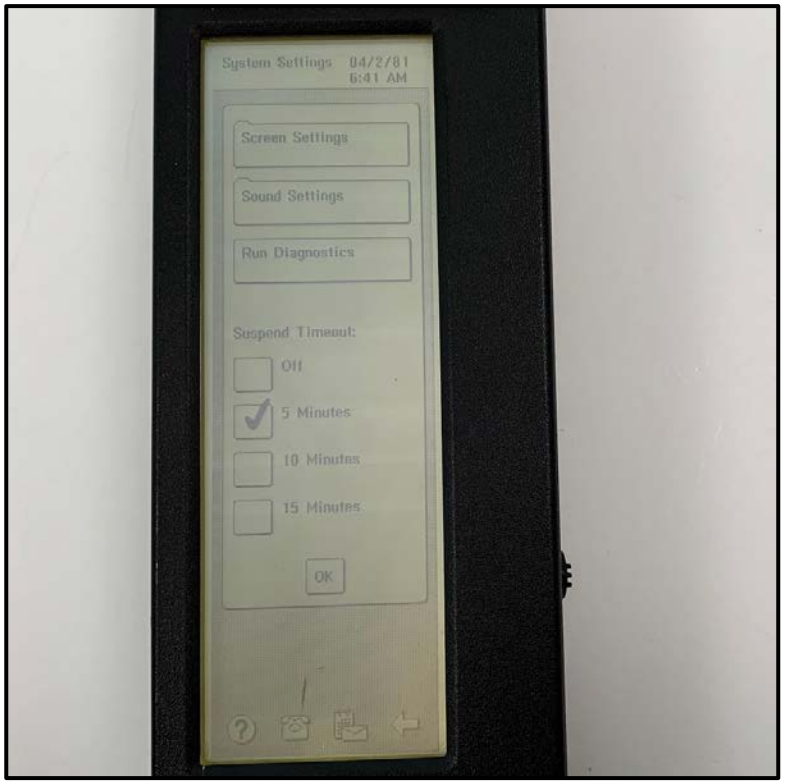


Photo of IBM Simon screen displaying “Create Password” option.

Locking Simon

After you have created a password, just touch the Lock button on the main Password screen to lock Simon. You will then have the choice of locking everything, or just the Mobile Office. If you lock everything, the Locked screen appears. If you lock only the Mobile Office, the main Phone screen appears. The Locked screen will not appear unless someone touches the Mobile Office icon at the bottom of the screen. This is useful if

	you want to let someone use your phone, but you do not want them to view your personal data. *See* User Manual at 59. Thus, with the phone locked, the user would not be able to use the phone, including the processing of outgoing calls:  Photo of IBM Simon screen displaying “Locked” menu.

1(b). Timing means for activating the blocking means in response to the mobile radiotelephony device being inactive during the normal operation of the mobile radiotelephony device for a defined period of time subsequent to a mounting of a linked user identification module inside the mobile radiotelephony device; and	The IBM Simon disclosed a timing means for activating the blocking means in response to the mobile radiotelephony device being inactive during the normal operation of the mobile radiotelephony device for a defined period of time subsequent to a mounting of a linked user identification module inside the mobile radiotelephony device. The Simon disclosed a "Suspend Timeout" feature that would block the phone after a certain specified amount of time. It could be adjusted among different amounts, including 5, 10, and 15 minutes.  Photo of IBM Simon screen displaying "Suspend Timeout" options. **Turning Simon On and Off**

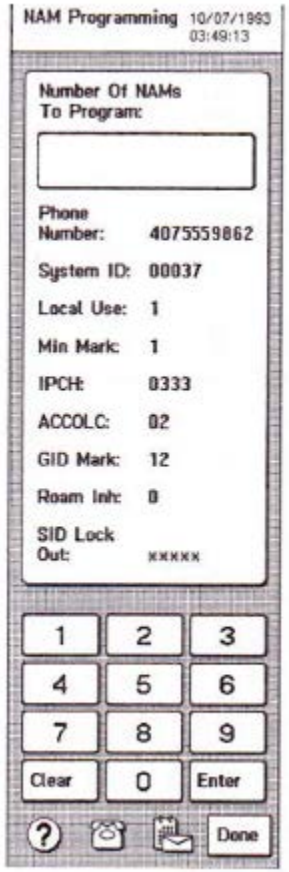
	If you don't use Simon for five minutes, it automatically suspends (turns off). (You may increase this time to 10 or 15 minutes using the System feature from the Mobile Office screen.) When you are ready to use Simon again, check the green On/Resume LED. If it's on, just touch the screen anywhere to continue. Otherwise, slide the Resume/Suspend (On/Off) switch. The screen where you were working previously will appear. *See* User Manual at 8. **System** Use the System feature to control ***Simon's timeouts***, display, and sounds. If directed by a Service Representative, you can also use the System feature to diagnose problems. … **The Suspend Timeout** The ***Suspend Timeout*** is the time that Simon will wait to turn off (suspend) automatically. ***The factory setting is five minutes, but you can select check boxes to change the time to 10 or 15 minutes.*** The shorter this time is, the longer your battery will last between charges. You should not adjust this time unless you find that you need to turn Simon on more often than you would like. *See id.* at 63. Once the Simon has been locked, and following the "Suspend Timeout" period, the Simon requires entering a password to access the device's telephony and other functions. The Simon will need powered on following the "Suspend Timeout" period, where it will require entering a password to access the devices functionality:

Photo of IBM Simon screen displaying “Locked” menu following the “Suspend Timeout” period.

Unlocking Simon

To unlock Simon, touch the Enter Password button. The on-screen keyboard will appear. Type your password, then touch the Done button. If the password is correct, Simon will unlock and show the main Password screen. From this screen, you can go quickly to the Phone or Mobile Office by touching the appropriate icon at the bottom of the screen.

	User Manual at 59-60. Further, the IBM Simon supported NAM programming functionality. **NAM Programming** Do not use NAM programming unless instructed by your Service Representative. If you program your phone incorrectly, it will not work. Make sure the phone power is off. Then touch *#*626 (*#*NAM) and touch Send. You have 10 seconds to do this.



Id. at 33.

"The NAM (Number Assignment Module) is the EPROM (Erasable Programmable Read-Only Memory) in a mobile telephone which holds information such as the MIN (or MDN) and SIDH. The data fields stored in a phone's NAM vary between the various mobile telephone specifications, such as AMPS/NAMPS, GSM, PCS, CMDA. *See* http://www.tech-faq.com/nam-number-assignment-module.html.

"The MIN (Mobile Identification Number) is a number that uniquely identifies a mobile telephone subscriber. MINs are 34-bits in length. The first 10 bits are sometimes known as

	MIN2, while the last 24 bits are referred to as MIN1. Together they are simply known as the MIN. In the United States, the MIN is derived from the 10 digital decimal telephone number assigned to the handset. For the telephone number (303)866-1010, the area code ("303") becomes the 10 bit MIN2 and the local portion of the telephone number ("866-1010") becomes the 24 bit MIN1. Internationally, MINs are calculated in a different fashion. The three digit mobile carrier identification number becomes MIN2 and the local portion of the number becomes MIN1. IFAST, the Internatioanl Forum on ANSI-41 Standards Technology, assigns the mobile carrier identification numbers. A MIN in this format is known as an IRM (International Roaming MIN). Unlike the IMEI, the MIN is not an attribute of the physical phone. The MIN is stored in a database that the cellular provider manages and can be changed at any time." *See* http://www.tech-faq.com/min-mobile-identification-number.html. The IBM Simon runs on the Advanced Mobile Phone Service (AMPS) mobile phone system standard from the American National Standards Institute (ANSI). *See, e.g.*, "Bellsouth, IBM Unveil Personal Communicator Phone," Mobile Phone News, November 8, 1993. Thus, the AMPS standard is inherently part of the IBM Simon system. The AMPS standard discloses a mobile identification number, which is "[a] 34 bit binary mobile identification number required for use in several control messages associated with call origination and call termination" and "is derived from a 10 digit decimal mobile station number." *See* TIA/EIA Standard: Mobile Station—Base Station Compatibility Standard, ANSI/TIA/EIA-553-A, November 1999 (Approved October 14, 1999), p. 16 ("AMPS Standard"):

	2.3 Security and identification **2.3.1 Mobile identification number** A 34 bit binary mobile identification number (MIN) required for use in several control messages associated with call origination and call termination is derived from a 10 digit decimal mobile station number. The MIN is derived according to the algorithm described in §2.3.1.1. If the MIN is derived from a ten digit national significant number, commonly referred to as the telephone's "directory number", the format of this number is NPA-NXX-XXXX, where NPA — represents the three digit Numbering Plan Area, NXX — represents the three digit mobile exchange code, and XXXX — represents the four digit telephone number within the exchange.

2.3.1.1 Encoding procedure

A 34 bit binary mobile identification number (MIN) is derived according to the following procedure (see also §2.7.1).

(1) The first three digits are mapped into 10 bits (corresponding to $MIN2_p$) by the following coding algorithm:

(a) Represent the 3-digit field as D_1 D_2 D_3 with the digit 0 having the value 10.

(b) Compute $100D_1 + 10D_2 + D_3 - 111$

(c) Convert the result in step (b) to binary by a standard decimal-to-binary conversion (see Table 2.3.1-1).

(2) The second three digits are mapped into the 10 most significant bits of $MIN1_p$ by the coding algorithm described in (1).

(3) The last four digits are mapped into the 14 least significant bits of $MIN1_p$ as follows:

(a) The thousands digit should be mapped into four bits by a Binary-Coded-Decimal (BCD) conversion, as specified in Table 2.3.1-1.

(b) The last three digits are mapped into 10 bits by the coding algorithm described in (1).

AMPS Standard at 16.

The AMPS standard also discloses an "Electronic Serial Number" (ESN) which "is a unique 32-bit binary number that identifies a mobile station to any cellular system." *See* AMPS Standard p. 18:

2.3.2 Electronic Serial Number

The electronic serial number (ESN) is a unique 32-bit binary number that identifies a mobile station to any cellular system. The primary storage component that holds the ESN shall be factory-set and not alterable in the field. Any circuitry that stores or manipulates the ESN shall be isolated from fraudulent contact and tampering. Mobile stations shall contain mechanisms such that fraudulent attempts to modify them so that they transmit a serial number (see §2.7.1.1) other than the original factory-set ESN shall render them inoperative. These mechanisms shall include methods to prevent fraudulent disabling of or tampering with the strong authentication procedures described in §2.3.12 and elsewhere in this standard.

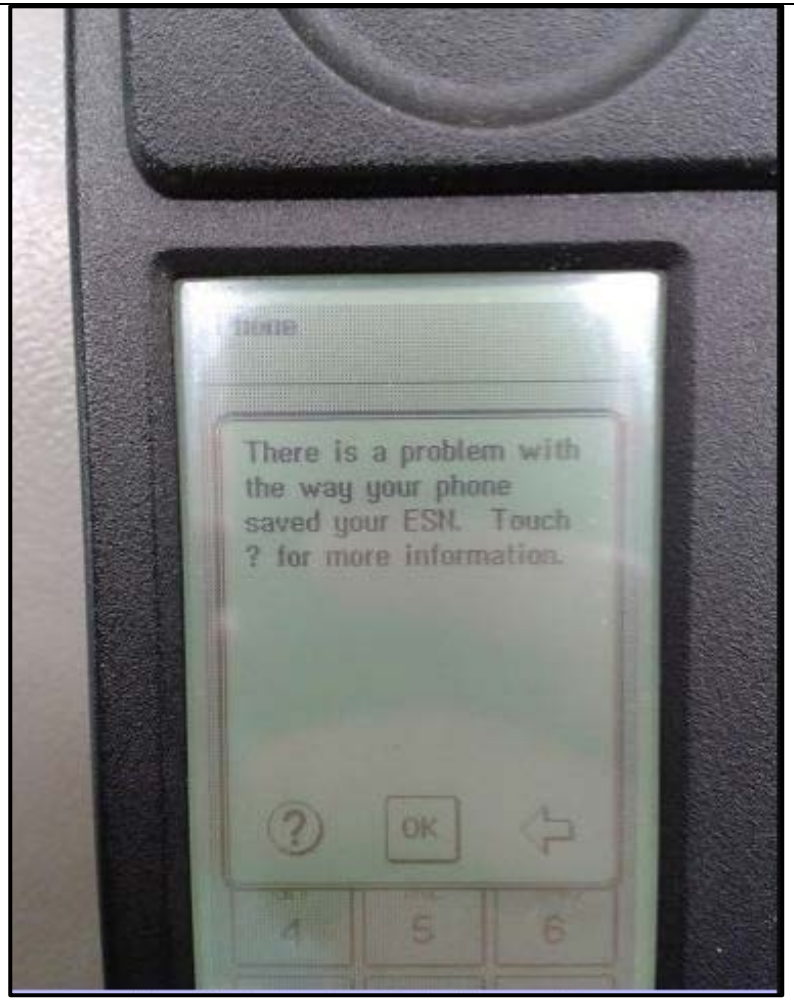
The IBM Simon stores the ESN, including at least in its circuitry:

Source: http://www.mobilecollectors.net/files/20141027_215303_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215342_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215409_medium.jpg

	 Source: http://www.mobilecollectors.net/files/20141027_215415_medium.jpg The IBM Simon stores the ESN on the device itself. *See, e.g.*:



Source: http://www.mobilecollectors.net/files/20141101_113755_medium.jpg

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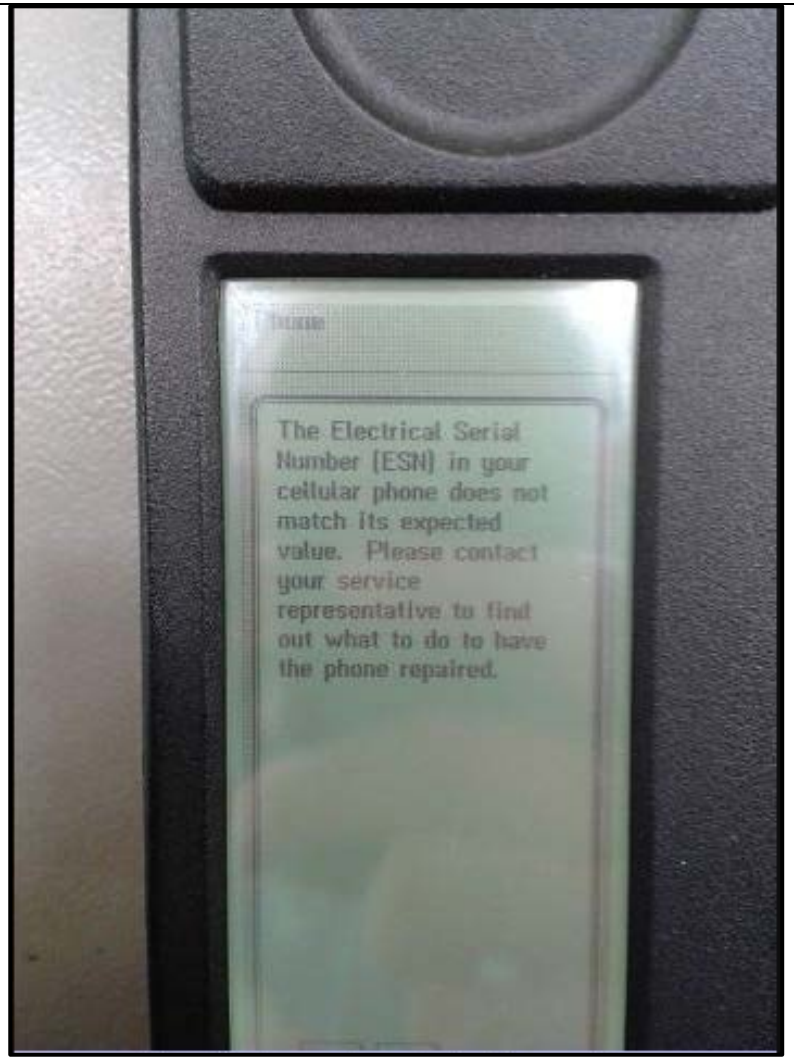


Source: http://www.mobilecollectors.net/files/20141101_113737_medium.jpg

1(c). Deblocking means for permitting the normal operation of the mobile radiotelephony device in response to a supply of a deblocking code to the mobile radiotelephony device subsequent to the mounting of the linked user identification module inside the mobile radiotelephony device and subsequent to the defined period of time.	The IBM Simon disclosed a deblocking means for permitting the normal operation of the mobile radiotelephony device in response to a supply of a deblocking code to the mobile radiotelephony device subsequent to the mounting of the linked user identification module inside the mobile radiotelephony device and subsequent to the defined period of time. The Simon allowed the user to enter a password to unblock the device.  Photo of IBM Simon screen displaying “Enter Password” prompt.

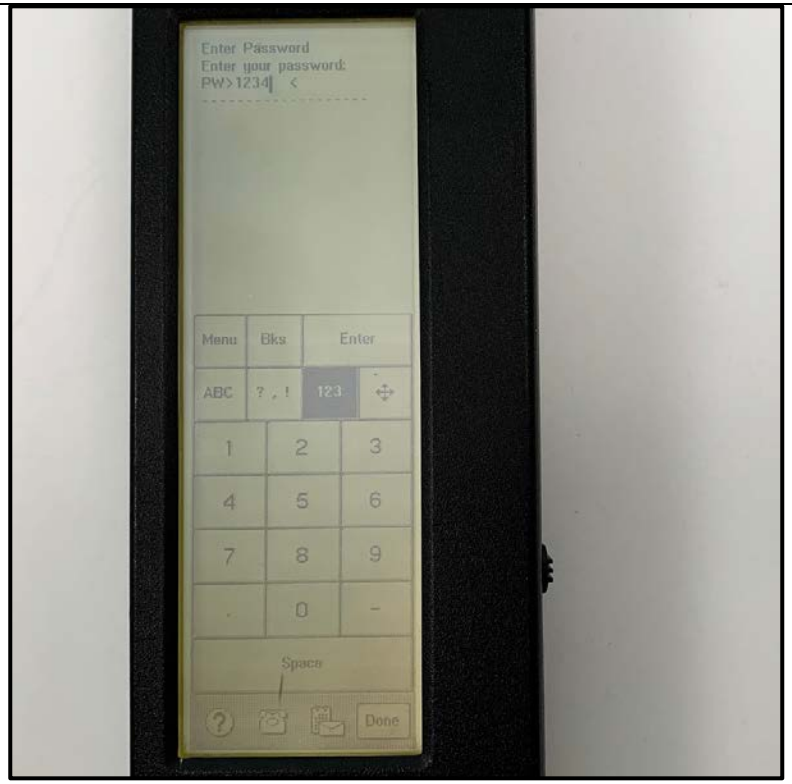


Photo of IBM Simon screen displaying “Enter Password” prompt.

Photo of IBM Simon screen displaying telephony functions.

Password

Use the Password feature to protect your personal information. Before you can lock Simon, you must create a password.

Creating a Password

	If you do not have a Simon password, the only action button available on the Password screen is the Create button. When you touch this button, a short form appears with the on-screen keyboard. Use the keyboard to type your password. Note: Passwords may have any combination of three to seven letters or numbers. After you type the password, touch the Done key. For protection of your Simon and your personal data, only you should know your password. Write it down and keep it in a safe place. If you forget your password, you will now be able to unlock and use your Simon. If someone else learns your password, change it. **Unlocking Simon** To unlock Simon, touch the Enter Password button. The on-screen keyboard will appear. Type your password, then touch the Done button. If the password is correct, Simon will unlock and show the main Password screen. From this screen, you can go quickly to the Phone or Mobile Office by touching the appropriate icon at the bottom of the screen. *See* User Manual at 59-60. The AMPS standard discloses a mobile identification number, which is "[a] 34 bit binary mobile identification number required for use in several control messages associated with call origination and call termination" and "is derived from a 10 digit decimal mobile station number." *See* AMPS Standard p. 16:

	2.3 Security and identification **2.3.1 Mobile identification number** A 34 bit binary mobile identification number (MIN) required for use in several control messages associated with call origination and call termination is derived from a 10 digit decimal mobile station number. The MIN is derived according to the algorithm described in §2.3.1.1. If the MIN is derived from a ten digit national significant number, commonly referred to as the telephone's "directory number", the format of this number is NPA-NXX-XXXX, where NPA — represents the three digit Numbering Plan Area, NXX — represents the three digit mobile exchange code, and XXXX — represents the four digit telephone number within the exchange.

2.3.1.1 Encoding procedure

A 34 bit binary mobile identification number (MIN) is derived according to the following procedure (see also §2.7.1).

(1) The first three digits are mapped into 10 bits (corresponding to $MIN2_p$) by the following coding algorithm:

(a) Represent the 3-digit field as D_1 D_2 D_3 with the digit 0 having the value 10.

(b) Compute $100D_1 + 10D_2 + D_3 - 111$

(c) Convert the result in step (b) to binary by a standard decimal-to-binary conversion (see Table 2.3.1-1).

(2) The second three digits are mapped into the 10 most significant bits of $MIN1_p$ by the coding algorithm described in (1).

(3) The last four digits are mapped into the 14 least significant bits of $MIN1_p$ as follows:

(a) The thousands digit should be mapped into four bits by a Binary-Coded-Decimal (BCD) conversion, as specified in Table 2.3.1-1.

(b) The last three digits are mapped into 10 bits by the coding algorithm described in (1).

AMPS Standard at 16.

The AMPS standard also discloses an "Electronic Serial Number" (ESN) which "is a unique 32-bit binary number that identifies a mobile station to any cellular system." *See* AMPS Standard p. 18:

2.3.2 Electronic Serial Number

The electronic serial number (ESN) is a unique 32-bit binary number that identifies a mobile station to any cellular system. The primary storage component that holds the ESN shall be factory-set and not alterable in the field. Any circuitry that stores or manipulates the ESN shall be isolated from fraudulent contact and tampering. Mobile stations shall contain mechanisms such that fraudulent attempts to modify them so that they transmit a serial number (see §2.7.1.1) other than the original factory-set ESN shall render them inoperative. These mechanisms shall include methods to prevent fraudulent disabling of or tampering with the strong authentication procedures described in §2.3.12 and elsewhere in this standard.

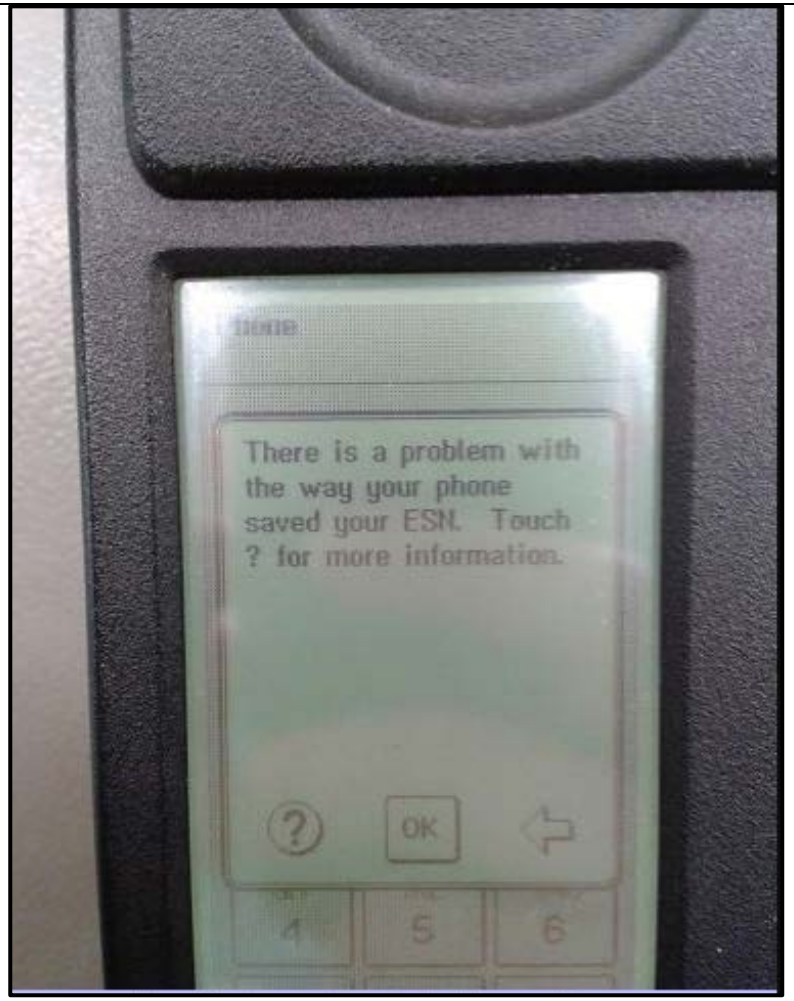
The IBM Simon stores the ESN, including at least in its circuitry:

Source: http://www.mobilecollectors.net/files/20141027_215303_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215342_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215409_medium.jpg

	 Source: http://www.mobilecollectors.net/files/20141027_215415_medium.jpg The IBM Simon stores the ESN on the device itself. *See, e.g.*:



Source: http://www.mobilecollectors.net/files/20141101_113755_medium.jpg

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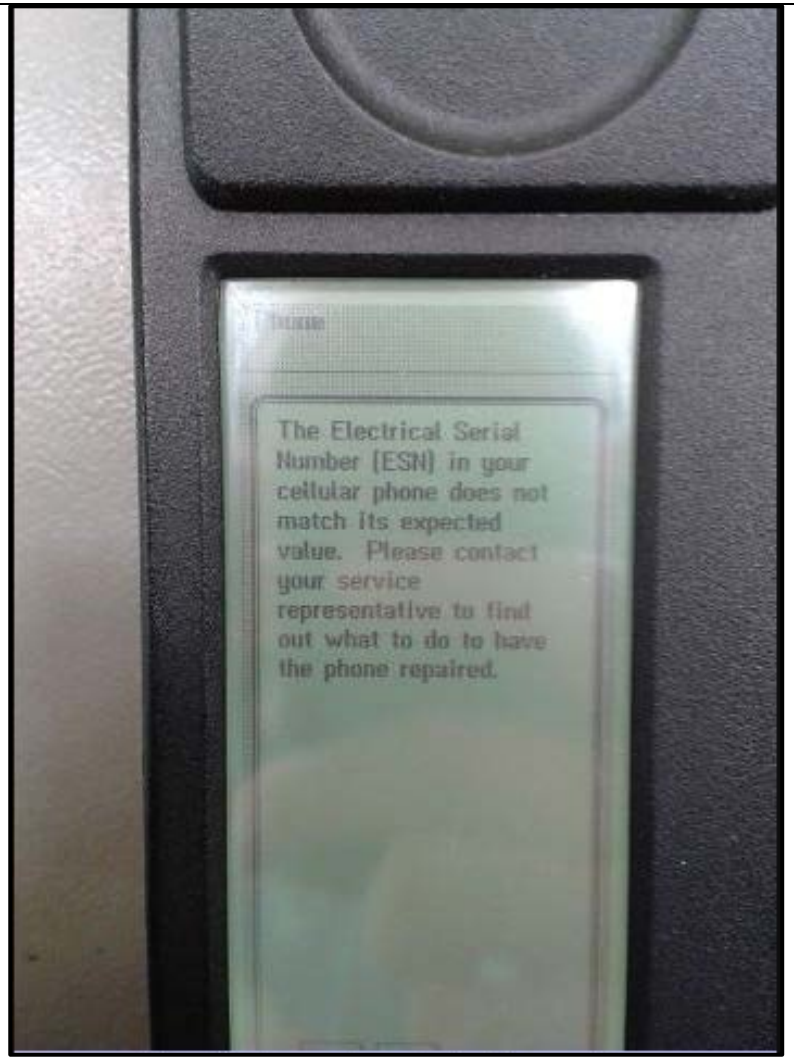
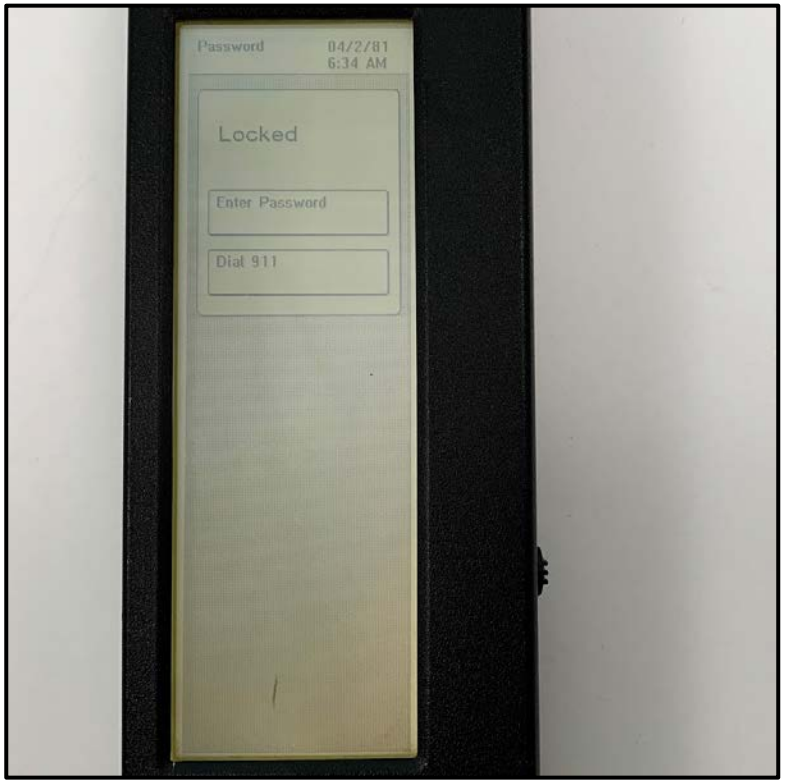


Source: http://www.mobilecollectors.net/files/20141101_113737_medium.jpg

Claim 3	IBM Simon
3. The mobile radiotelephony device of claim 1, wherein an activation of the blocking means prevents all transmissions of non-emergency outgoing calls and permits all transmissions of emergency outgoing calls.	The IBM Simon disclosed the mobile radiotelephony device of claim 1, wherein an activation of the blocking means prevents all transmissions of non-emergency outgoing calls and permits all transmissions of emergency outgoing calls. The Simon allowed the user to make emergency calls even when blocked.  Photo of IBM Simon screen displaying “Dial 911” option. **Dialing 911 when Locked**

	When you lock Simon, ***you still have one-touch dialing for 911 (or the emergency number you preset) without entering your password***. Just touch the 911 button on the Locked screen. *See* User Manual at 59. **911** In an ***emergency just one touch of the 911 button is all you need***. The call will start with no other action on your part. If you touch 911 by accident, it's easy to cancel with the large Cancel Emergency Call button. You can change this setting to any emergency number you wish. To do this, just follow the instructions in "Phone Settings" on page 27. *See id.* at 18.

Claim 4	IBM Simon
4. The mobile radiotelephony device of claim 1, further comprising: locking means for facilitating an activation of the block means by the timing means.	The IBM Simon disclosed locking means for facilitating an activation of the block means by the timing means. The Simon could be configured to be locked by the user pushing a button and setting the "Suspend Timeout" time after which the Simon would be blocked.

	 Photo of IBM Simon screen displaying “Password” icon.

Photo of IBM Simon screen displaying “Password” menu.

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Photo of IBM Simon screen displaying “Suspend Timeout” options.

Photo of IBM Simon screen displaying the "Locked" menu after the Simon has been locked and the "Suspend Timeout" time period has been reached.

Locking Simon

After you have created a password, just touch the Lock button on the main Password screen to lock Simon. You will then have the choice of locking everything, or just the Mobile Office. If you lock everything, the Locked screen appears. If you lock only the Mobile Office, the main Phone screen appears. The Locked screen will not appear unless someone touches the Mobile Office icon at the bottom of the screen. This is useful if

	you want to let someone use your phone, but you do not want them to view your personal data. *See* User Manual at 59. **System** Use the System feature to control ***Simon's timeouts***, display, and sounds. If directed by a Service Representative, you can also use the System feature to diagnose problems. … **The Suspend Timeout** The ***Suspend Timeout*** is the time that Simon will wait to turn off (suspend) automatically. ***The factory setting is five minutes, but you can select check boxes to change the time to 10 or 15 minutes.*** The shorter this time is, the longer your battery will last between charges. You should not adjust this time unless you find that you need to turn Simon on more often than you would like. *See id.* at 63. It could then only be unblocked via a password.

Photo of IBM Simon screen displaying “Enter Password” prompt.

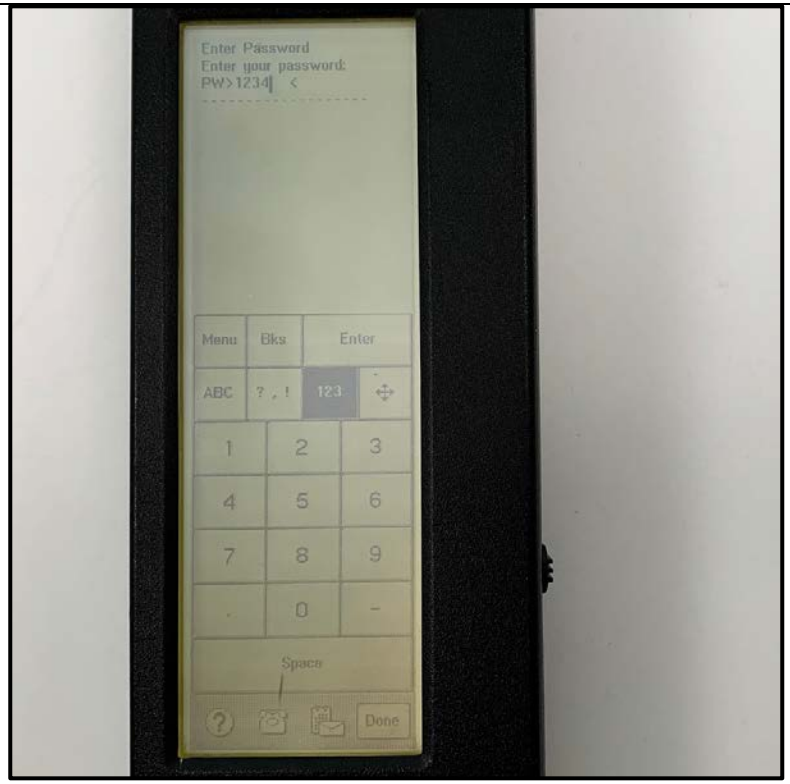


Photo of IBM Simon screen displaying “Enter Password” prompt.

Photo of IBM Simon screen displaying telephony functions after the password has been entered.

Password

Use the Password feature to protect your personal information. Before you can lock Simon, you must create a password.

Creating a Password

	If you do not have a Simon password, the only action button available on the Password screen is the Create button. When you touch this button, a short form appears with the on-screen keyboard. Use the keyboard to type your password. Note: Passwords may have any combination of three to seven letters or numbers. After you type the password, touch the Done key. For protection of your Simon and your personal data, only you should know your password. Write it down and keep it in a safe place. If you forget your password, you will now be able to unlock and use your Simon. If someone else learns your password, change it. **Unlocking Simon** To unlock Simon, touch the Enter Password button. The on-screen keyboard will appear. Type your password, then touch the Done button. If the password is correct, Simon will unlock and show the main Password screen. From this screen, you can go quickly to the Phone or Mobile Office by touching the appropriate icon at the bottom of the screen. *See* User Manual at 59-60.

Claim 5	IBM Simon
5. The mobile radiotelephony device of claim 1, further comprising: connecting means for establishing a link between the mobile	The IBM Simon discloses the mobile radiotelephony device of claim 1, further comprising: connecting means for establishing a link between the mobile radiotelephony device and the linked user identification module. The IBM Simon runs on the Advanced Mobile Phone Service (AMPS) mobile phone system standard from the American National Standards Institute (ANSI). *See, e.g.*, "Bellsouth, IBM Unveil Personal Communicator Phone," Mobile

radiotelephony device and the linked user identification module.	Phone News, November 8, 1993. Thus, the AMPS standard is inherently part of the IBM Simon system. The AMPS standard discloses a mobile identification number, which is "[a] 34 bit binary mobile identification number required for use in several control messages associated with call origination and call termination" and "is derived from a 10 digit decimal mobile station number." *See* AMPS Standard p. 16: **2.3 Security and identification** **2.3.1 Mobile identification number** A 34 bit binary mobile identification number (MIN) required for use in several control messages associated with call origination and call termination is derived from a 10 digit decimal mobile station number. The MIN is derived according to the algorithm described in §2.3.1.1. If the MIN is derived from a ten digit national significant number, commonly referred to as the telephone's "directory number", the format of this number is NPA-NXX-XXXX, where NPA — represents the three digit Numbering Plan Area, NXX — represents the three digit mobile exchange code, and XXXX — represents the four digit telephone number within the exchange.

2.3.1.1 Encoding procedure

A 34 bit binary mobile identification number (MIN) is derived according to the following procedure (see also §2.7.1).

(1) The first three digits are mapped into 10 bits (corresponding to $MIN2_p$) by the following coding algorithm:

(a) Represent the 3-digit field as D_1 D_2 D_3 with the digit 0 having the value 10.

(b) Compute $100D_1 + 10D_2 + D_3 - 111$

(c) Convert the result in step (b) to binary by a standard decimal-to-binary conversion (see Table 2.3.1-1).

(2) The second three digits are mapped into the 10 most significant bits of $MIN1_p$ by the coding algorithm described in (1).

(3) The last four digits are mapped into the 14 least significant bits of $MIN1_p$ as follows:

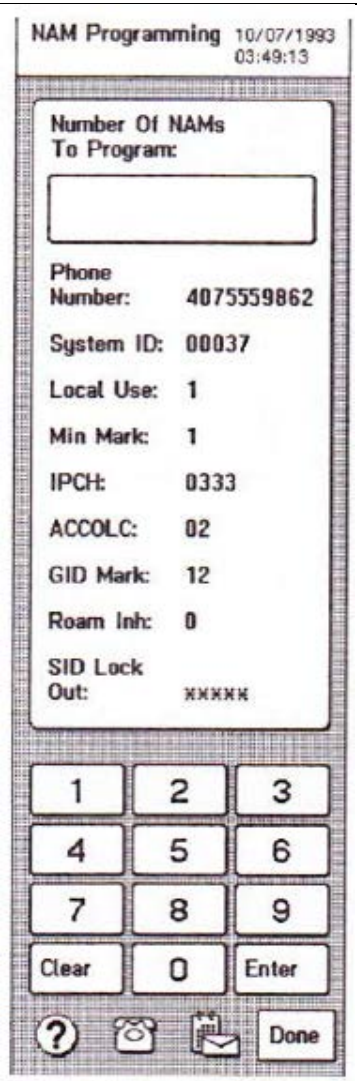
(a) The thousands digit should be mapped into four bits by a Binary-Coded-Decimal (BCD) conversion, as specified in Table 2.3.1-1.

(b) The last three digits are mapped into 10 bits by the coding algorithm described in (1).

The IBM Simon allows NAM Programming.

"NAM Programming

Do you not use NAM programming unless instructed by your Service Representative. If you program your phone incorrectly, it will not work. Make sure the phone power is off. Then touch *#*626 (*#*NAM) and touch Send. You have 10 seconds to do this."



The IBM Simon stores information associated with NAM programming, including the MIN (mobile identification number). *See* User Manual at 33.

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The AMPS standard also discloses an "Electronic Serial Number" (ESN) which "is a unique 32-bit binary number that identifies a mobile station to any cellular system." *See* AMPS Standard p. 18:

2.3.2 Electronic Serial Number

The electronic serial number (ESN) is a unique 32-bit binary number that identifies a mobile station to any cellular system. The primary storage component that holds the ESN shall be factory-set and not alterable in the field. Any circuitry that stores or manipulates the ESN shall be isolated from fraudulent contact and tampering. Mobile stations shall contain mechanisms such that fraudulent attempts to modify them so that they transmit a serial number (see §2.7.1.1) other than the original factory-set ESN shall render them inoperative. These mechanisms shall include methods to prevent fraudulent disabling of or tampering with the strong authentication procedures described in §2.3.12 and elsewhere in this standard.

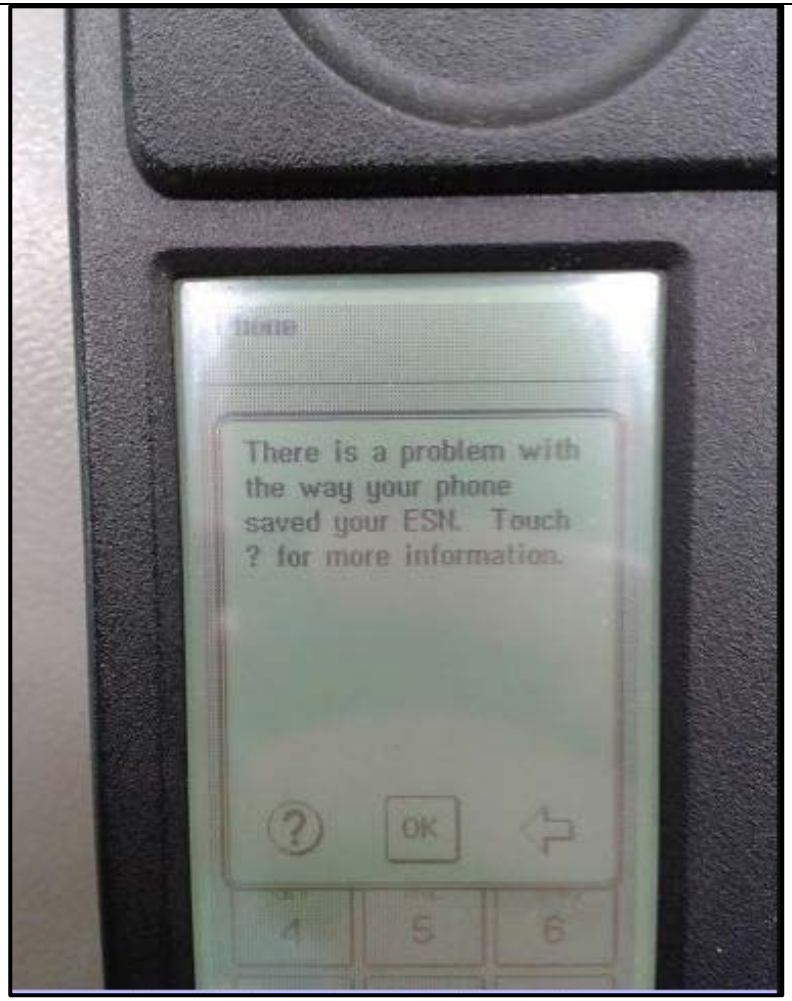
The IBM Simon stores the ESN, including at least in its circuitry:

Source: http://www.mobilecollectors.net/files/20141027_215303_medium.jpg

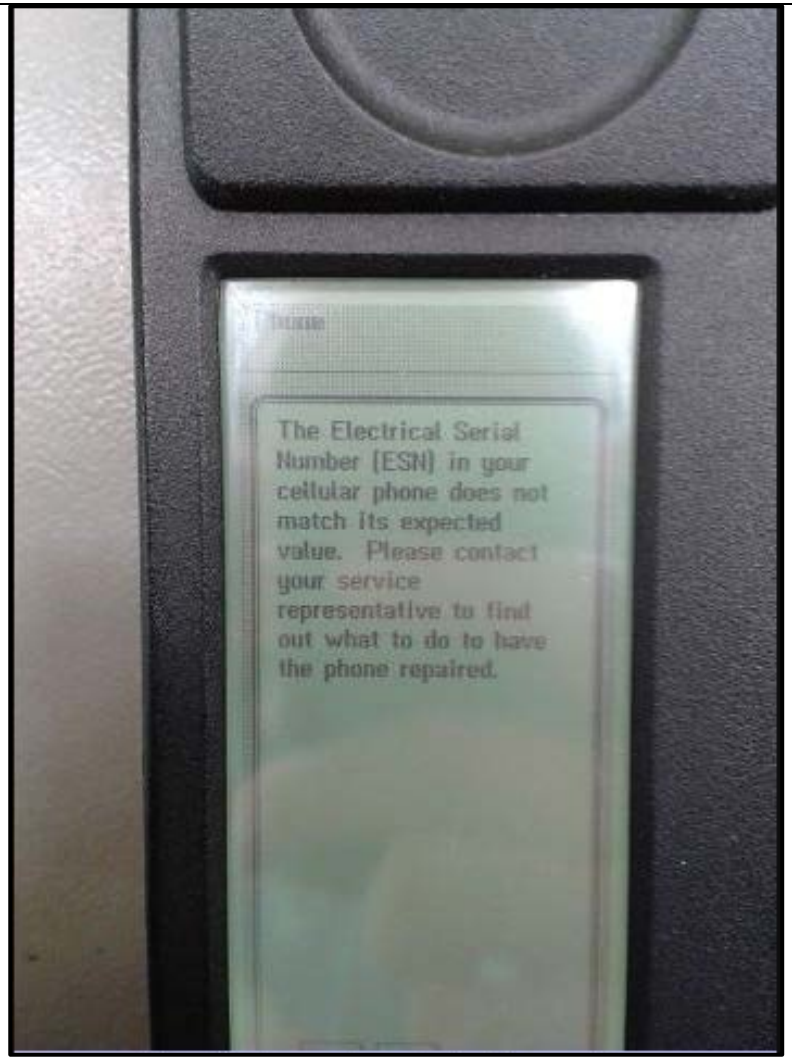
Source: http://www.mobilecollectors.net/files/20141027_215342_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215409_medium.jpg

	 Source: http://www.mobilecollectors.net/files/20141027_215415_medium.jpg The IBM Simon stores the ESN on the device itself. *See, e.g.*:



Source: http://www.mobilecollectors.net/files/20141101_113755_medium.jpg



Source: http://www.mobilecollectors.net/files/20141101_113737_medium.jpg

Claim 10	IBM Simon
10(pre). A method of protecting a mobile radiotelephony device, the method comprising:	To the extent the preamble is determined to be limiting, the IBM Simon discloses a method of protecting the device via at least a password and blocking the phone.  Photo of IBM Simon on charging station.

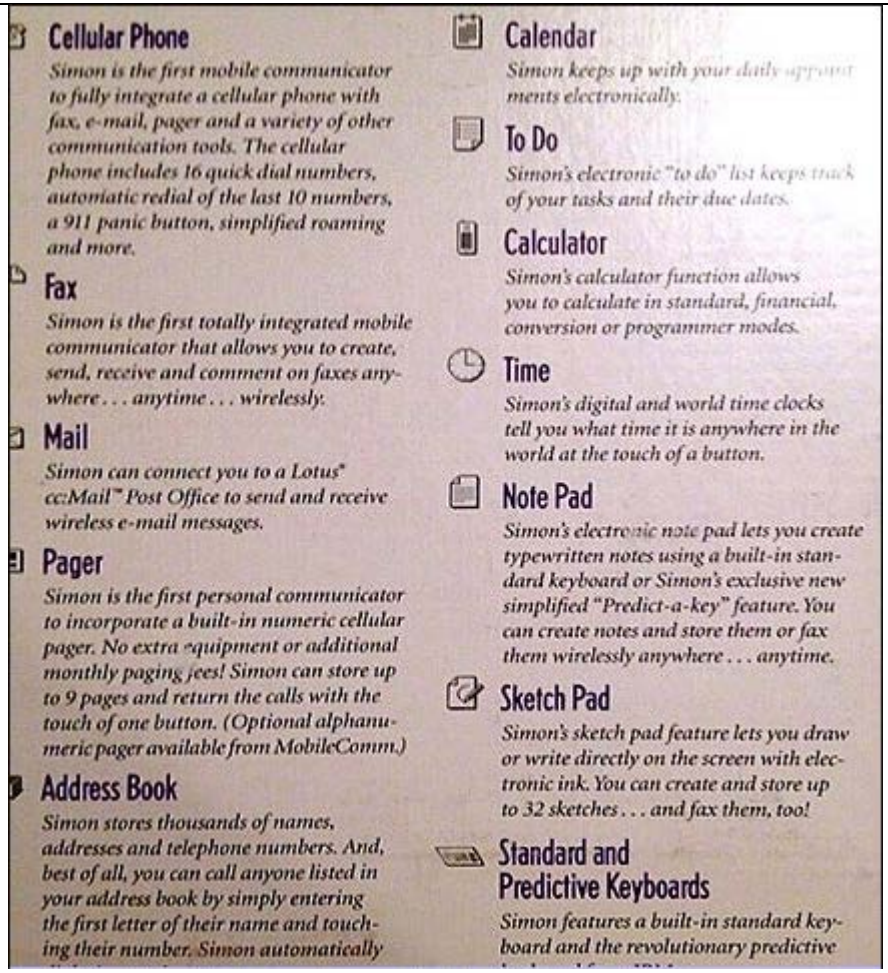
Top view photo of IBM Simon; back view photo of IBM Simon with battery removed.

You now have total personal communications—including your ***cellular phone***—in one ***small, hand-held, mobile device***. Simon has everything you need: ***cellular phone***, fax, E-mail, pager, paperless notepad, address book, calendar, and calculator. And it's wireless! So it works where you work, goes where you go.

See User Manual at 1.[2]

[2] Emphasis added unless otherwise specified.

	The IBM Simon was a cellular phone that sent out radio waves. **Radio Waves** ***Cellular phones send out radio waves***. These waves might interfere with the proper functioning of electronic control systems, such as electronic fuel-injection systems, electronic cruise-control systems, and particularly, electronic antiskid braking systems. *See id.* at 3. **How Simon Works** ***Your Simon is a cellular phone*** with personal organization and communication capabilities. The phone has a display that shows you the screens for the available features. The two main screens are the ***Phone*** screen and the Mobile Office screen, and you can get to them at any time by touching their picture (icon) on the bottom of the display area. ***You can use the phone functions by touching the button for the desired feature on the Phone screen.*** You can use the personal organization and communication functions by touching the appropriate icon on the Mobile Office screen. *See id.* at 11.



Cellular Phone

Simon is the first mobile communicator to fully integrate a cellular phone with fax, e-mail, pager and a variety of other communication tools. The cellular phone includes 16 quick dial numbers, automatic redial of the last 10 numbers, a 911 panic button, simplified roaming and more.

Fax

Simon is the first totally integrated mobile communicator that allows you to create, send, receive and comment on faxes anywhere . . . anytime . . . wirelessly.

Mail

Simon can connect you to a Lotus® cc:Mail™ Post Office to send and receive wireless e-mail messages.

Pager

Simon is the first personal communicator to incorporate a built-in numeric cellular pager. No extra equipment or additional monthly paging fees! Simon can store up to 9 pages and return the calls with the touch of one button. (Optional alphanumeric pager available from MobileComm.)

Address Book

Simon stores thousands of names, addresses and telephone numbers. And, best of all, you can call anyone listed in your address book by simply entering the first letter of their name and touching their number. Simon automatically

Calendar

Simon keeps up with your daily appointments electronically.

To Do

Simon's electronic "to do" list keeps track of your tasks and their due dates.

Calculator

Simon's calculator function allows you to calculate in standard, financial, conversion or programmer modes.

Time

Simon's digital and world time clocks tell you what time it is anywhere in the world at the touch of a button.

Note Pad

Simon's electronic note pad lets you create typewritten notes using a built-in standard keyboard or Simon's exclusive new simplified "Predict-a-key" feature. You can create notes and store them or fax them wirelessly anywhere . . . anytime.

Sketch Pad

Simon's sketch pad feature lets you draw or write directly on the screen with electronic ink. You can create and store up to 32 sketches . . . and fax them, too!

Standard and Predictive Keyboards

Simon features a built-in standard keyboard and the revolutionary predictive

Source: http://www.mobilecollectors.net/files/100112_57_jpg_medium.jpg

Photo of IBM Simon screen displaying “Locked” menu.

Photo of IBM Simon screen displaying “Enter Password” prompt.

Password

Use the Password feature to protect your personal information. Before you can lock Simon, you must create a password.

Creating a Password

	If you do not have a Simon password, the only action button available on the Password screen is the Create button. When you touch this button, a short form appears with the on-screen keyboard. Use the keyboard to type your password. Note: Passwords may have any combination of three to seven letters or numbers. After you type the password, touch the Done key. For protection of your Simon and your personal data, only you should know your password. Write it down and keep it in a safe place. If you forget your password, you will now be able to unlock and use your Simon. If someone else learns your password, change it. **Unlocking Simon** To unlock Simon, touch the Enter Password button. The on-screen keyboard will appear. Type your password, then touch the Done button. If the password is correct, Simon will unlock and show the main Password screen. From this screen, you can go quickly to the Phone or Mobile Office by touching the appropriate icon at the bottom of the screen. *See* User Manual at 59-60. The AMPS Standard discloses an electronic serial number (ESN) and "[a]ny circuitry that stores or manipulates the ESN shall be isolated from fraudulent contact and tampering. Mobile stations shall contain mechanisms such that fraudulent attempts to modify them so that they transmit a serial number (see §2.7.1.1) other than the original factory-set ESN shall render them inoperative. These mechanisms shall include methods to prevent fraudulent disabling of or tampering with the strong authentication procedures described in §2.3.12 and elsewhere in this standard." AMPS Standard at 18.

2.3.12 Authentication and Encryption of Signaling Information/User Data

Messages received during the authentication procedures that are unrelated to the authentication process shall also be processed.

[1] Mobile stations manufactured prior to the formal addition of this option in IS-3-C may switch to any power between DTX-high level and completely off when in DTX-low state.

2.3.12.1 Authentication

Authentication is the process during which information is exchanged between a mobile station and the base station for the purpose of enabling the base station to confirm the identity of the mobile station. A successful outcome of the authentication process occurs only when it can be demonstrated that the mobile station and base station possess identical sets of Shared Secret Data (SSD).

The authentication algorithms are described in *Common Cryptographic Algorithms*. The interface (input and output parameters) for the algorithms are described in *Interface Specification for Common Cryptographic Algorithms)*. See §2.3.12.1.9 of this document for more information. Table 2.3.12-1 summarizes the setting of the input parameters of the Auth_Signature procedure for each of its uses in this standard.

See Id. at 21-22.

The IBM Simon also included NAM Programming functionality but instructed users that "[d]o not use NAM programming unless instructed by your Service Representative. If you program your phone incorrectly, it will not work." User Manual at 33.

10(a). verifying a user identification module mounted inside the mobile radiotelephone device is linked to the mobile radiotelephony device;	The IBM Simon discloses this limitation: The IBM Simon runs on the Advanced Mobile Phone Service (AMPS) mobile phone system standard from the American National Standards Institute (ANSI). *See, e.g.*, "Bellsouth, IBM Unveil Personal Communicator Phone," Mobile Phone News, November 8, 1993. Thus, the AMPS standard is inherently part of the IBM Simon system. The AMPS standard discloses an "Electronic Serial Number" (ESN) which "is a unique 32-bit binary number that identifies a mobile station to any cellular system." *See* TIA/EIA Standard: Mobile Station—Base Station Compatibility Standard, ANSI/TIA/EIA-553-A, November 1999 (Approved October 14, 1999), p. 18 ("AMPS Standard"): **2.3.2 Electronic Serial Number** The electronic serial number (ESN) is a unique 32-bit binary number that identifies a mobile station to any cellular system. The primary storage component that holds the ESN shall be factory-set and not alterable in the field. Any circuitry that stores or manipulates the ESN shall be isolated from fraudulent contact and tampering. Mobile stations shall contain mechanisms such that fraudulent attempts to modify them so that they transmit a serial number (see §2.7.1.1) other than the original factory-set ESN shall render them inoperative. These mechanisms shall include methods to prevent fraudulent disabling of or tampering with the strong authentication procedures described in §2.3.12 and elsewhere in this standard. The IBM Simon stores the ESN, including at least in its circuitry:

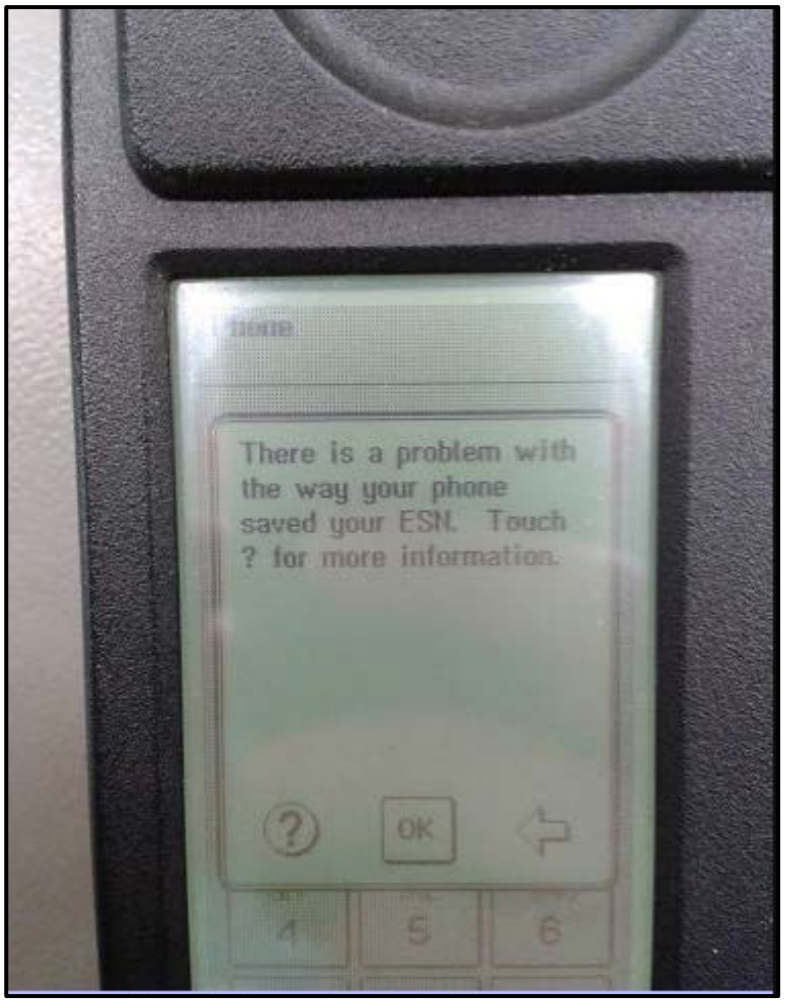
Source: http://www.mobilecollectors.net/files/20141027_215303_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215342_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215409_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215415_medium.jpg

The IBM Simon stores the ESN on the device itself. *See, e.g.*:



Source: http://www.mobilecollectors.net/files/20141101_113755_medium.jpg

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Source: http://www.mobilecollectors.net/files/20141101_113737_medium.jpg

The IBM Simon verifies that the ESN is linked to that device, including when the device is powered on and registered with the network and prior to the processing of phone calls.

The AMPS Standard also discloses a "Mobile Identification number" (MIN). The MIN is a 34-bit binary mobile identification number (MIN) required for use in several control messages associated with call origination and call termination and is derived from a 10 digit decimal mobile station number.

See AMPS Standard at p.16:

TIA/EIA-553-A

2.3 Security and Identification

2.3.1 Mobile identification number

A 34 bit binary mobile identification number (MIN) required for use in several control messages associated with call origination and call termination is derived from a 10 digit decimal mobile station number.

The MIN is derived according to the algorithm described in §2.3.1.1. If the MIN is derived from a ten digit national significant number, commonly referred to as the telephone's "directory number", the format of this number is NPA-NXX-XXXX, where

NPA — represents the three digit Numbering Plan Area,

NXX — represents the three digit mobile exchange code, and

XXXX — represents the four digit telephone number within the exchange.

2.3.1.1 Encoding procedure

A 34 bit binary mobile identification number (MIN) is derived according to the following procedure (see also §2.7.1).

(1) The first three digits are mapped into 10 bits (corresponding to $MIN2_p$) by the following coding algorithm:

(a) Represent the 3-digit field as D_1 D_2 D_3 with the digit 0 having the value 10.

(b) Compute $100D_1 + 10D_2 + D_3 - 111$

(c) Convert the result in step (b) to binary by a standard decimal-to-binary conversion (see Table 2.3.1-1).

(2) The second three digits are mapped into the 10 most significant bits of $MIN1_p$ by the coding algorithm described in (1).

(3) The last four digits are mapped into the 14 least significant bits of $MIN1_p$ as follows:

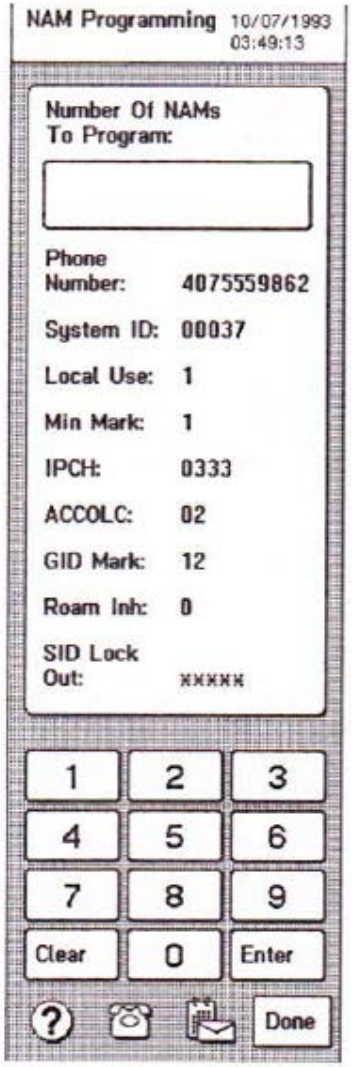
(a) The thousands digit should be mapped into four bits by a Binary-Coded-Decimal (BCD) conversion, as specified in Table 2.3.1-1.

(b) The last three digits are mapped into 10 bits by the coding algorithm described in (1).

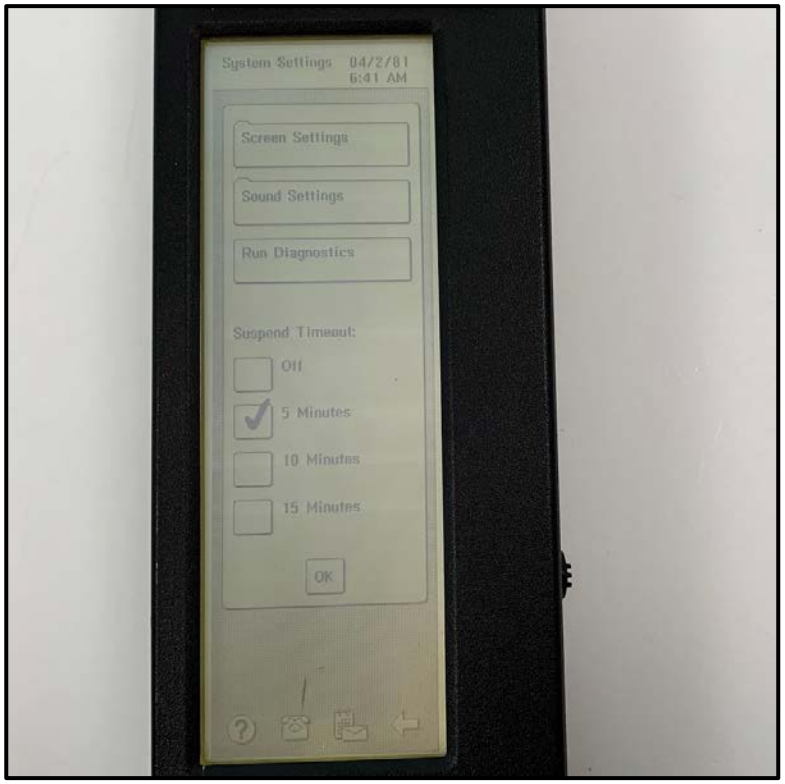
The IBM Simon allows NAM Programming.

"NAM Programming

Do you not use NAM programming unless instructed by your Service Representative. If you program your phone incorrectly, it will not work. Make sure the phone power is off. Then touch *#*626 (*#*NAM) and touch Send. You have 10 seconds to do this."



The IBM Simon stores information associated with NAM programming, including the MIN (mobile identification number). *See* User Manual at 33.

10(b). detecting a period of inactivity of the mobile radiotelephony device during a normal operation of the mobile radiotelephony device, wherein the normal operation includes a processing of all outgoing calls;	The IBM Simon discloses this limitation:  Photo of IBM Simon screen displaying “Suspend Timeout” options. **Turning Simon On and Off** If you don’t use Simon for five minutes, it automatically suspends (turns off). (You may increase this time to 10 or 15 minutes using the System feature from the Mobile Office screen.) When you are ready to use Simon again, check the green On/Resume LED. If it’s on, just touch the screen anywhere to continue. Otherwise, slide the

	Resume/Suspend (On/Off) switch. The screen where you were working previously will appear. *See* User Manual at 8. **System** Use the System feature to control ***Simon's timeouts***, display, and sounds. If directed by a Service Representative, you can also use the System feature to diagnose problems. … **The Suspend Timeout** The ***Suspend Timeout*** is the time that Simon will wait to turn off (suspend) automatically. ***The factory setting is five minutes, but you can select check boxes to change the time to 10 or 15 minutes.*** The shorter this time is, the longer your battery will last between charges. You should not adjust this time unless you find that you need to turn Simon on more often than you would like. *See id.* at 63.
10(c). preventing the normal operation of the mobile radiotelephony device in response to the verification of the linked user identification module and in response to the detection of the period of inactivity of the mobile radiotelephony device.	The IBM Simon discloses this limitation. The Simon disclosed a "Suspend Timeout" feature that would block the phone after a certain specified amount of time. It could be adjusted among different amounts, including 5, 10, and 15 minutes.

Photo of IBM Simon screen displaying “Suspend Timeout” options.

Turning Simon On and Off

If you don’t use Simon for five minutes, it automatically suspends (turns off). (You may increase this time to 10 or 15 minutes using the System feature from the Mobile Office screen.) When you are ready to use Simon again, check the green On/Resume LED. If it’s on, just touch the screen anywhere to continue. Otherwise, slide the Resume/Suspend (On/Off) switch. The screen where you were working previously will appear.

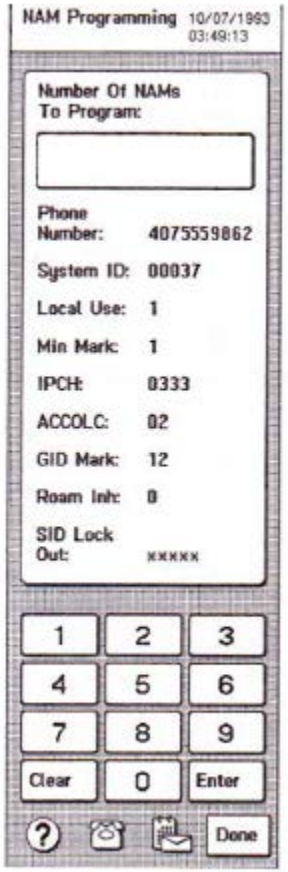
	See User Manual at 8. **System** Use the System feature to control ***Simon's timeouts***, display, and sounds. If directed by a Service Representative, you can also use the System feature to diagnose problems. … **The Suspend Timeout** The ***Suspend Timeout*** is the time that Simon will wait to turn off (suspend) automatically. ***The factory setting is five minutes, but you can select check boxes to change the time to 10 or 15 minutes.*** The shorter this time is, the longer your battery will last between charges. You should not adjust this time unless you find that you need to turn Simon on more often than you would like. *See id.* at 63. Once the Simon has been locked, and following the "Suspend Timeout" period, the Simon requires entering a password to access the device's telephony and other functions. The Simon will need powered on following the "Suspend Timeout" period, where it will require entering a password to access the devices functionality:

Photo of IBM Simon screen displaying “Locked” menu following the “Suspend Timeout” period.

Unlocking Simon

To unlock Simon, touch the Enter Password button. The on-screen keyboard will appear. Type your password, then touch the Done button. If the password is correct, Simon will unlock and show the main Password screen. From this screen, you can go quickly to the Phone or Mobile Office by touching the appropriate icon at the bottom of the screen.

	User Manual at 59-60. Further, the IBM Simon supported NAM programming functionality. **NAM Programming** Do not use NAM programming unless instructed by your Service Representative. If you program your phone incorrectly, it will not work. Make sure the phone power is off. Then touch *#*626 (*#*NAM) and touch Send. You have 10 seconds to do this.



Id. at 33.

"The NAM (Number Assignment Module) is the EPROM (Erasable Programmable Read-Only Memory) in a mobile telephone which holds information such as the MIN (or MDN) and SIDH. The data fields stored in a phone's NAM vary between the various mobile telephone specifications, such as AMPS/NAMPS, GSM, PCS, CMDA. *See* http://www.tech-faq.com/nam-number-assignment-module.html.

"The MIN (Mobile Identification Number) is a number that uniquely identifies a mobile telephone subscriber. MINs are 34-bits in length. The first 10 bits are sometimes known as

	MIN2, while the last 24 bits are referred to as MIN1. Together they are simply known as the MIN. In the United States, the MIN is derived from the 10 digital decimal telephone number assigned to the handset. For the telephone number (303)866-1010, the area code ("303") becomes the 10 bit MIN2 and the local portion of the telephone number ("866-1010") becomes the 24 bit MIN1. Internationally, MINs are calculated in a different fashion. The three digit mobile carrier identification number becomes MIN2 and the local portion of the number becomes MIN1. IFAST, the Internatioanl Forum on ANSI-41 Standards Technology, assigns the mobile carrier identification numbers. A MIN in this format is known as an IRM (International Roaming MIN). Unlike the IMEI, the MIN is not an attribute of the physical phone. The MIN is stored in a database that the cellular provider manages and can be changed at any time." *See* http://www.tech-faq.com/min-mobile-identification-number.html. The IBM Simon runs on the Advanced Mobile Phone Service (AMPS) mobile phone system standard from the American National Standards Institute (ANSI). *See, e.g.*, "Bellsouth, IBM Unveil Personal Communicator Phone," Mobile Phone News, November 8, 1993. Thus, the AMPS standard is inherently part of the IBM Simon system. The AMPS standard discloses a mobile identification number, which is "[a] 34 bit binary mobile identification number required for use in several control messages associated with call origination and call termination" and "is derived from a 10 digit decimal mobile station number." *See* TIA/EIA Standard: Mobile Station—Base Station Compatibility Standard, ANSI/TIA/EIA-553-A, November 1999 (Approved October 14, 1999), p. 16 ("AMPS Standard"):

	2.3 Security and identification **2.3.1 Mobile identification number** A 34 bit binary mobile identification number (MIN) required for use in several control messages associated with call origination and call termination is derived from a 10 digit decimal mobile station number. The MIN is derived according to the algorithm described in §2.3.1.1. If the MIN is derived from a ten digit national significant number, commonly referred to as the telephone's "directory number", the format of this number is NPA-NXX-XXXX, where NPA — represents the three digit Numbering Plan Area, NXX — represents the three digit mobile exchange code, and XXXX — represents the four digit telephone number within the exchange.

2.3.1.1 Encoding procedure

A 34 bit binary mobile identification number (MIN) is derived according to the following procedure (see also §2.7.1).

(1) The first three digits are mapped into 10 bits (corresponding to $MIN2_p$) by the following coding algorithm:

(a) Represent the 3-digit field as D_1 D_2 D_3 with the digit 0 having the value 10.

(b) Compute $100D_1 + 10D_2 + D_3 - 111$

(c) Convert the result in step (b) to binary by a standard decimal-to-binary conversion (see Table 2.3.1-1).

(2) The second three digits are mapped into the 10 most significant bits of $MIN1_p$ by the coding algorithm described in (1).

(3) The last four digits are mapped into the 14 least significant bits of $MIN1_p$ as follows:

(a) The thousands digit should be mapped into four bits by a Binary-Coded-Decimal (BCD) conversion, as specified in Table 2.3.1-1.

(b) The last three digits are mapped into 10 bits by the coding algorithm described in (1).

AMPS Standard at 16.

The AMPS standard also discloses an "Electronic Serial Number" (ESN) which "is a unique 32-bit binary number that identifies a mobile station to any cellular system." *See* AMPS Standard p. 18:

2.3.2 Electronic Serial Number

The electronic serial number (ESN) is a unique 32-bit binary number that identifies a mobile station to any cellular system. The primary storage component that holds the ESN shall be factory-set and not alterable in the field. Any circuitry that stores or manipulates the ESN shall be isolated from fraudulent contact and tampering. Mobile stations shall contain mechanisms such that fraudulent attempts to modify them so that they transmit a serial number (see §2.7.1.1) other than the original factory-set ESN shall render them inoperative. These mechanisms shall include methods to prevent fraudulent disabling of or tampering with the strong authentication procedures described in §2.3.12 and elsewhere in this standard.

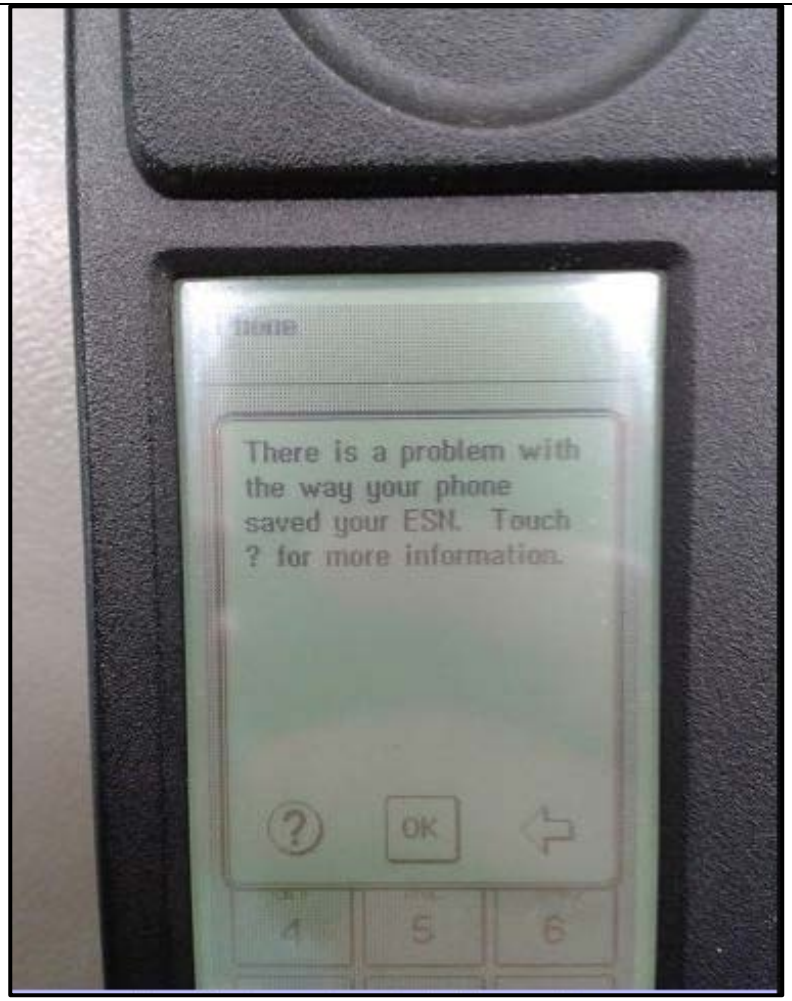
The IBM Simon stores the ESN, including at least in its circuitry:

Source: http://www.mobilecollectors.net/files/20141027_215303_medium.jpg

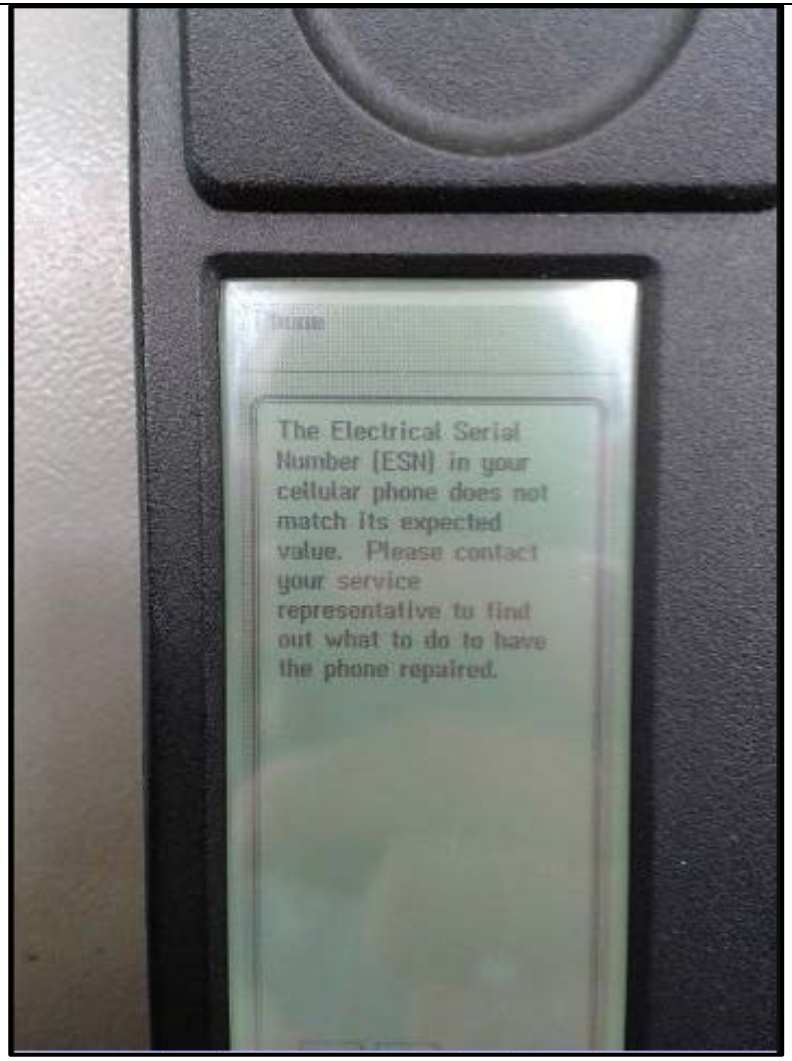
Source: http://www.mobilecollectors.net/files/20141027_215342_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215409_medium.jpg

	 Source: http://www.mobilecollectors.net/files/20141027_215415_medium.jpg The IBM Simon stores the ESN on the device itself. *See, e.g.*:



Source: http://www.mobilecollectors.net/files/20141101_113755_medium.jpg



Source: http://www.mobilecollectors.net/files/20141101_113737_medium.jpg

Claim 11	IBM Simon
The method of claim 10, further comprising: permitting the normal operation of the mobile radiotelephony device in response to the verification of the linked user identification module and in response to a supply of a deblocking code to the mobile radiotelephony device subsequent to the detection of the period of inactivity of the mobile radiotelephony device.	The IBM Simon disclosed this limitation. The Simon allowed the user to enter a password to unblock the device.  Photo of IBM Simon screen displaying “Enter Password” prompt.

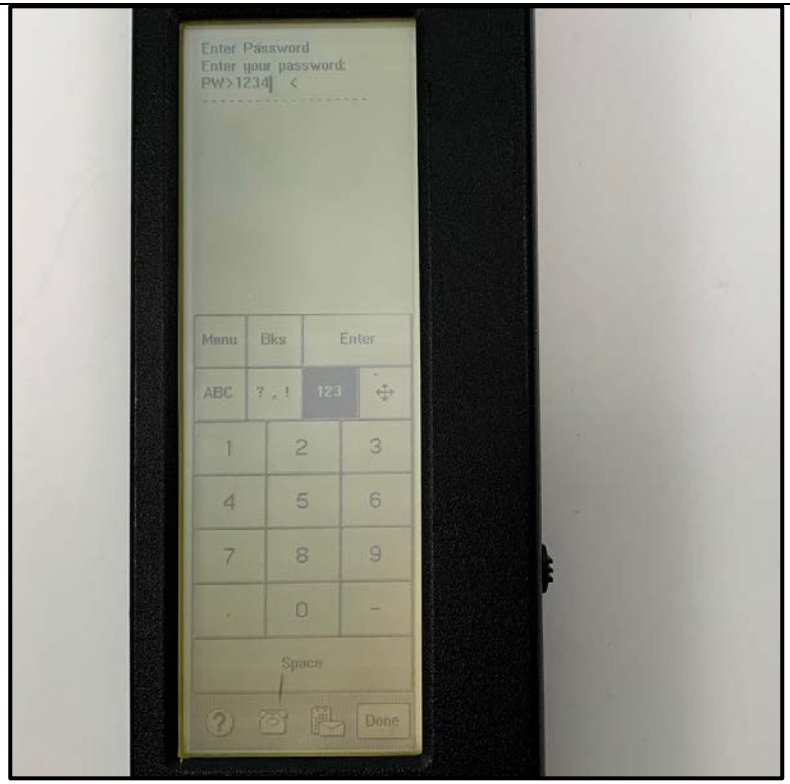


Photo of IBM Simon screen displaying “Enter Password” prompt.

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Photo of IBM Simon screen displaying telephony functions.

Password

Use the Password feature to protect your personal information. Before you can lock Simon, you must create a password.

Creating a Password

	If you do not have a Simon password, the only action button available on the Password screen is the Create button. When you touch this button, a short form appears with the on-screen keyboard. Use the keyboard to type your password. Note: Passwords may have any combination of three to seven letters or numbers. After you type the password, touch the Done key. For protection of your Simon and your personal data, only you should know your password. Write it down and keep it in a safe place. If you forget your password, you will now be able to unlock and use your Simon. If someone else learns your password, change it. **Unlocking Simon** To unlock Simon, touch the Enter Password button. The on-screen keyboard will appear. Type your password, then touch the Done button. If the password is correct, Simon will unlock and show the main Password screen. From this screen, you can go quickly to the Phone or Mobile Office by touching the appropriate icon at the bottom of the screen. *See* User Manual at 59-60. The AMPS standard discloses a mobile identification number, which is "[a] 34 bit binary mobile identification number required for use in several control messages associated with call origination and call termination" and "is derived from a 10 digit decimal mobile station number." *See* AMPS Standard p. 16:

	2.3 Security and identification **2.3.1 Mobile identification number** A 34 bit binary mobile identification number (MIN) required for use in several control messages associated with call origination and call termination is derived from a 10 digit decimal mobile station number. The MIN is derived according to the algorithm described in §2.3.1.1. If the MIN is derived from a ten digit national significant number, commonly referred to as the telephone's "directory number", the format of this number is NPA-NXX-XXXX, where NPA — represents the three digit Numbering Plan Area, NXX — represents the three digit mobile exchange code, and XXXX — represents the four digit telephone number within the exchange.

2.3.1.1 Encoding procedure

A 34 bit binary mobile identification number (MIN) is derived according to the following procedure (see also §2.7.1).

(1) The first three digits are mapped into 10 bits (corresponding to $MIN2_p$) by the following coding algorithm:

(a) Represent the 3-digit field as D_1 D_2 D_3 with the digit 0 having the value 10.

(b) Compute $100D_1 + 10D_2 + D_3 - 111$

(c) Convert the result in step (b) to binary by a standard decimal-to-binary conversion (see Table 2.3.1-1).

(2) The second three digits are mapped into the 10 most significant bits of $MIN1_p$ by the coding algorithm described in (1).

(3) The last four digits are mapped into the 14 least significant bits of $MIN1_p$ as follows:

(a) The thousands digit should be mapped into four bits by a Binary-Coded-Decimal (BCD) conversion, as specified in Table 2.3.1-1.

(b) The last three digits are mapped into 10 bits by the coding algorithm described in (1).

AMPS Standard at 16.

The AMPS standard also discloses an "Electronic Serial Number" (ESN) which "is a unique 32-bit binary number that identifies a mobile station to any cellular system." *See* AMPS Standard p. 18:

2.3.2 Electronic Serial Number

The electronic serial number (ESN) is a unique 32-bit binary number that identifies a mobile station to any cellular system. The primary storage component that holds the ESN shall be factory-set and not alterable in the field. Any circuitry that stores or manipulates the ESN shall be isolated from fraudulent contact and tampering. Mobile stations shall contain mechanisms such that fraudulent attempts to modify them so that they transmit a serial number (see §2.7.1.1) other than the original factory-set ESN shall render them inoperative. These mechanisms shall include methods to prevent fraudulent disabling of or tampering with the strong authentication procedures described in §2.3.12 and elsewhere in this standard.

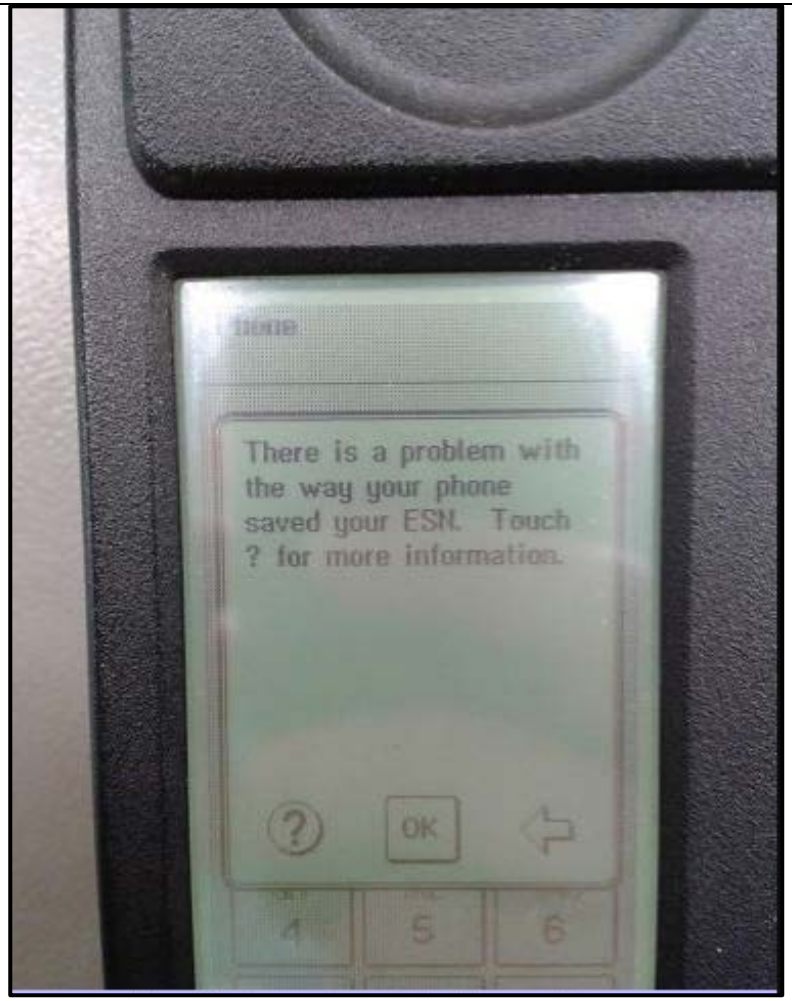
The IBM Simon stores the ESN, including at least in its circuitry:

Source: http://www.mobilecollectors.net/files/20141027_215303_medium.jpg

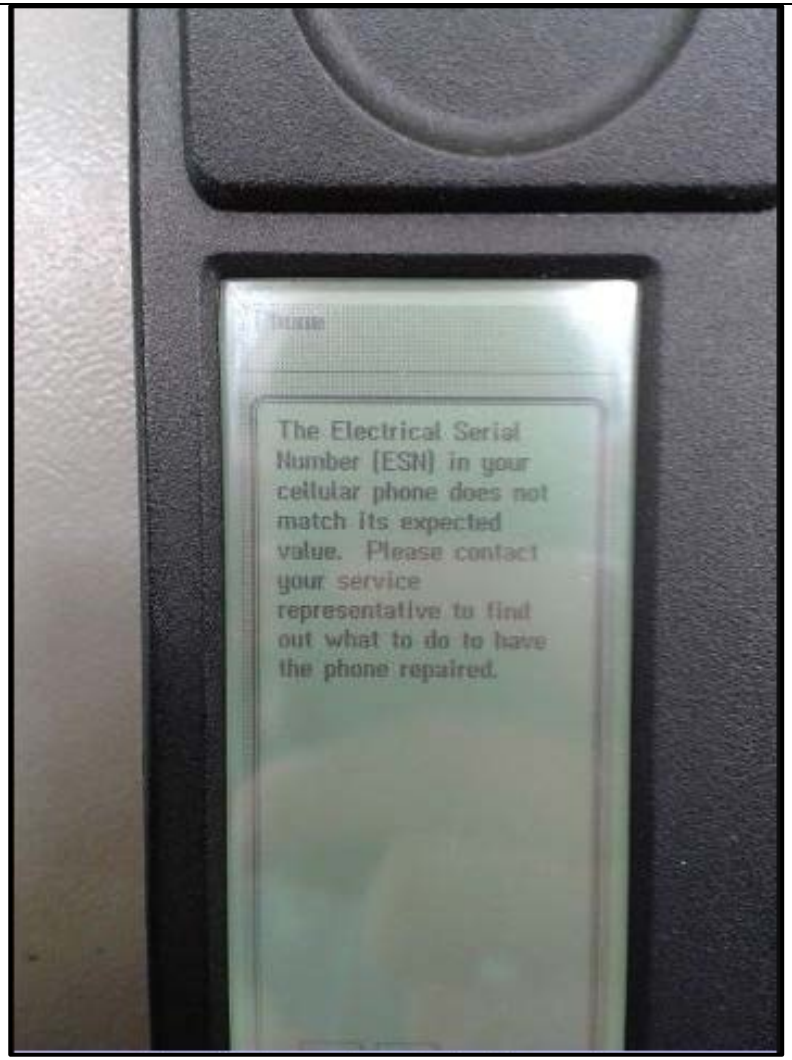
Source: http://www.mobilecollectors.net/files/20141027_215342_medium.jpg

Source: http://www.mobilecollectors.net/files/20141027_215409_medium.jpg

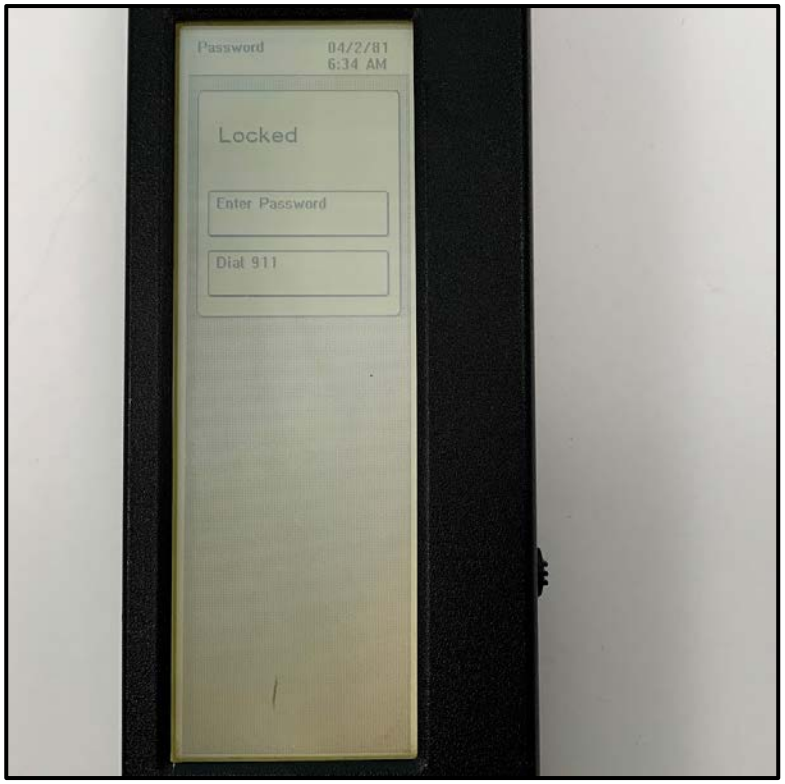
	 Source: http://www.mobilecollectors.net/files/20141027_215415_medium.jpg The IBM Simon stores the ESN on the device itself. *See, e.g.*:



Source: http://www.mobilecollectors.net/files/20141101_113755_medium.jpg



Source: http://www.mobilecollectors.net/files/20141101_113737_medium.jpg

Claim 13	IBM Simon
13. The method of claim 10, wherein the prevention of the normal operation of the mobile radiotelephony device prevents all transmissions of non-emergency outgoing calls and permits all transmissions of emergency outgoing calls.	The IBM Simon disclosed this limitation. The Simon allowed the user to make emergency calls even when blocked.  Photo of IBM Simon screen displaying “Dial 911” option. **Dialing 911 when Locked**

	When you lock Simon, ***you still have one-touch dialing for 911 (or the emergency number you preset) without entering your password***. Just touch the 911 button on the Locked screen. *See* User Manual at 59. **911** In an ***emergency just one touch of the 911 button is all you need***. The call will start with no other action on your part. If you touch 911 by accident, it's easy to cancel with the large Cancel Emergency Call button. You can change this setting to any emergency number you wish. To do this, just follow the instructions in "Phone Settings" on page 27. *See id.* at 18.